carbamate. This synthetic sorbent adsorbed selectively the copper-ions from solutions which are close to natural waters with respect to their composition and which contain a number of other ions (Table 1). Under these conditions, the alumo-silica-gels lost their capacity of adsorbing copper, even if and when the concentration of perturbing ions was much lower. The effect of this adsorbent is apparently explained by a present amino-group as well as by a certain capacity of copper to form ammonicates. This adsorbent stands a multiple treatment with 1 n -HCl (for the purpose of copper-desorption). Further the adsorption capacities of alumosilica-gels and of the silica-gel after a treatment with ammonium hydroxide are discussed. The latter was washed out until a pH 8 was attained. The dependence of the adsorption of copper by the produced adsorbent on the concentration of copper in the solution was determined by the method of sinking particles. The solution contained 0,5 g/liter Ca-,

Extraction of Copper From Highly Diluted Solutions by Means of the Method of Sinking Particles Using Mineral Absorbents 153-58-1-11/29

Mg-and Na-ions (Figure 2,curve VI) or no disturbing ions for the purpose of comparison (Figure 5,curve I). The silica-gel saturated with ammonia proved to be much more active than the initial gel. Concluding, data on the mechanism of adsorption (Tables 2,3) and the adsorption of ions of the elements forming ammiacates and aminates, are discussed (Table 4). There are 7 figures, 4 tables, and 11 references, 8 of which are Soviet.

ASSOCIATION: Leningradskiy tekhnologicheskiy institut im. Lensoveta. Kafedra analiticheskoy khimii (Leningrad Technological Institute imeni Lensovet, Chair for Analytical Chemistry)

SUBMITTED: September 18, 1957

Card 5/5

SOV/137-59-1-2094

Translation from: Referativnyy zhurnal. Metallurgiya, 1959, Nr 1, p 274 (USSR)

AUTHORS: Aleskovskiy, V. B., Miller, A. D., Sergeyev, Ye. A.

TITLE: Concentration and Determination of Traces of Silver, Copper, Lead, Zinc (and Nickel) in Natural Waters [Kontsentrirovaniye i opredeleniye sledov serebra, medi, svintsa, tsinka (i nikelya) v prirodnykh vodakh]

PERIODICAL: Tr. Komis. po analit. khimii AN SSSR, 1958, Vol 8 (11), pp 217-226

ABSTRACT: The authors propose the use of 'sinking-particles' method, which is convenient in field work, instead of the ion-exchange column. The completeness of extraction of microcomponents depends upon the size of the resin particles, the amount of resin used, and the concentration of cations. The best extraction of Cu^{2+} at a concentration of 80 γ/liter is attained with 10 grams of resin of 100-150 μ particle size. The joint extraction of Cu, Zn, and Pb from solutions produced good results. Fe did not impede the determination. The second method for concentrating Cu, Zn, Pb, and Ag consists of coprecipitation with $CaCO_3$. Methods for the determination are described

Card 1/2

Concentration and Determination of Traces of Silver, Copper, Lead, Zinc (cont.)

Minimum amounts determined by concentration from 1 liter of water by either method are (in γ/liter): Ag 10, Cu 5-10, Pb 5-10, Zn 5-10.

P. K.

Card 2/2

ALESKOVSKIY, V.B.; LIBINA, R.I.; MILLER, A.D.

Determination of microquantities of lead and copper in solutions after preliminary concentration by means of an ion exchange column. Trudy LTI no.48:5-11 '58. (MIRA 15:4)
(Lead--Analysis) (Copper--Analysis) (Ion exchange)

ALESKOVSKIY, V.B.; DOBYCHIN, S.L.; KEDRINSKIY, I.A.; MILLER, A.D.; MIKHAYLOVA, A.I.; MOKHOV, A.A.; NAZAROVA, Z.N.

Determination of trace elements in natural waters after a preliminary concentration by the method of "sinking particles." Trudy LTI no.48:12-21 '58. (MIRA 15:4)
(Trace elements) (Water, Underground)

DOBYCHIN, S.L.; ALESKOVSKIY, V.B.

Study of ion exchange under conditions of the free fall of ion exchanger particles in solution. Trudy LTI no.48:22-23 '58. (MIRA 15:4)

(Ion exchange)

DOBYCHIN, S.L.; ALESKOVSKIY, V.B.

Studying the kinetics of the extraction of metal traces from solutions by the cementation method. Trudy LTI no.48:34-44 '58. (MIRA 15:4)

(Cementation (Metallurgy))

DOBYCHIN, S.L.; ALESKOVSKIY, V.B.

Cementation method used for the concentration and determination of microquantities of some metals. Trudy LTI no.48:45-48 '58. (MIRA 15:4)

(Cementation (Metallurgy)) (Metals--Analysis)

BARDIN, V.V.; ALESKOVSKIY, V.B.; MILLER, A.D.

Molybdenum and molybdenum oxide electrodes. Trudy LTI no.48: 83-89 '58. (MIRA 15:4)
(Electrodes, Molybdenum)

55310

67989
SOV/81-59-12-42059

Translation from: Referativnyy zhurnal. Khimiya, 1959, Nr 12, p 118 (USSR)

AUTHORS: Aleskovskiy, V.B., Setkina, O.N., Kochneva, V.A., Lyadov, V.S.

TITLE: Spectral Determination of Lithium and Cesium in the Flame of Thermite Blasting Cartridge

PERIODICAL: Tr. Leningr. tekhnol. in-ta im. Lensoveta, 1958, Nr 48, pp 90-93

ABSTRACT: In order to excite Li and Cs spectra a thermite mixture of 65% MnO_2 and 35% Mg metal has been used, the radiation of which is free of background. The mixture is easy to ignite and has a sufficient duration of burning. The substance is pressed into tablets under a pressure of 5,000 kg/cm^2; the weight of a tablet is 2 g, the diameter 10 mm. Within the tablet a hole of 2 mm in diameter and 6 mm deep is made, into which the sample is placed in the form of a powder prepared on NaCl base. For preparing the sample 1 ml of an aqueous solution of Li and Cs is mixed with 70 mg NaCl, the water is evaporated and the salt is placed into the tablet covering it from above with a mixture of 65% CuO and 35% Mg. The tablet is placed into a chamber on the optical axis of a 3-prism glass spectrograph. The substance is kindled by a match, the spectra are

Card 1/2

67989
SOV/81-59-12-42059

Spectral Determination of Lithium and Cesium in the Flame of Thermite Blasting Cartridge

photographed on Nikfi infra-840 plates for 2 - 3 seconds. The evaluation of the Li and Cs content is carried out by the lines Cs 8521.1 and Li 6708 A. The presence of Ca does not affect the determination of Cs. The photometric determination of the lines is carried out visually.

G. Kibisov

Card 2/2

BOYCHINOVA, Ye.S.; ALESKOVSKIY, V.B.

Quantitative determination of trace elements from the height of peaks on paper chromatograms. Report No.1: Determination of copper and nickel ions. Trudy LTI no.48:94-100 '58. (MIRA 15:4)
(Copper--Analysis) (Nickel--Analysis) (Paper chromatography)

TYUTINA, N.A.; ALESKOVSKIY, V.B.; MILLER, A.D.

Methods of concentrating niobium ions in natural waters. Trudy LTI no.48:101-108 '58. (MIRA 15:4)
(Niobium--Analysis) (Water, Underground)

KALININA, T.I.; ALESKOVSKIY, V.B.

Interaction between cation exchangers and difficulty soluble compounds. Trudy LTI no.48:124-132 '58. (MIRA 15:4)
(Ion exchange)

BOYCHINOVA, Yu.S.; ALESKOVSKIY, V.B.

Mechanism of the formation of precipitation chromatograms on ion exchange resins. Trudy LTI no.48:133-142 '58. (MIRA 15:4)
(Ion exchange resins) (Precipitation (Chemistry))

KHEYFETS, Z.I.; ALESKOVSKIY, V.B.

Chromatographic determination of cobalt in the presence of interfering ions with the aid of ion exchangers. Report No.2: Determination of cobalt in the presence of bismuth. Trudy LTI no.48:179-181 '58. (MIRA 15:4)
(Cobalt--Analysis) (Bismuth) (Ion exchange)

SOV/81-60-2-4029

Translation from: Referativnyy zhurnal. Khimiya, 1960, Nr 2, p 65 (USSR)

AUTHORS: Aleskovskiy, V.B., Koval'tsov, V.A., Petrov, V.V., Tsyplyatnikov, G.P.

TITLE: Investigation of the Flameless Burning of Hydrogen on a Platinum-Platino-Iridium Thermocouple

PERIODICAL: Tr. Leningr. tekhnol. in-ta im. Lensoveta, 1958, Nr 48, pp 219 - 226

ABSTRACT: The flameless burning of H_2 on the surface of the junction of a Pt-Pt-Ir thermocouple was investigated. The thermocouple was placed into a H_2 jet flowing from a pipe surrounded by an oxygen-containing mixture. The current value of the catalytic activity of the thermocouple $A_t = E_t/c$, where E_t is the current value of the thermal emf, c is the O_2 concentration. The value $a = A^tA$, where A corresponds to the final data of the experiment, determines the degree of activation in a given moment; a increases with time. In the case of constant O_2 consumption and variable H_2 consumption the thermal emf passes through a maximum at stoichiometric

Card 1/2

SOV/81-60-2-4029

Investigation of the Flameless Burning of Hydrogen on a Platinum-Platino-Iridium Thermocouple

composition. In an air jet the degree of H_2 burning is 28%; it increases with an increase in the O_2 concentration. A flameless burner can be used for the quantitative determination of O_2, H_2 and vapors of organic substances from the thermal emf of the junction.

A.S.

Card 2/2

14(5)
AUTHORS: Aleskovskiy, V. B., Mokhor, A. A., Spirov, V. N. SOV/7-59-3-8/13

TITLE: Use of the Biogeochemical Method in Prospecting for Nickel on the Kola Peninsula (Ispol'zovaniye biogeokhimicheskogo metoda poiskov nikelya na Kol'skom poluostrove)

PERIODICAL: Geokhimiya, 1959, Nr 3, pp 266-272 (USSR)

ABSTRACT: Investigations were carried out of the nickel content in water, plants, and in the soil for four profiles. The water of the area investigated contains no nickel, which is probably due to the high pH value (Table 1) and the abundant precipitations. Only the most frequently occurring plants were investigated: fir-tree (pirus triesiana), the subarctic birch (betula subarctica), the stunted birch (betula tortuosa) and the bilberry (vaccinium myrtillus). Botanical determination of plants was carried out by the Polyarno-al'piyskiy botanicheskiy sad Kol'skogo filiala im. S. M. Kirova Akademii nauk SSSR (Arctic-Alpine Botanical Gardens of the Kola Branch imeni S. M. Kirov of the Academy of Sciences USSR). The nickel content is in each case shown graphically. The highest con-

Card 1/2

Use of the Biogeochemical Method in Prospecting for Nickel on the Kola Peninsula SOV/7-59-3-8/13

centrations were found in the leaves of birch-trees; repeated taking of samples showed (Fig 6) that the nickel content is highest in summer and fall. In samples taken of the soil the layers having a thickness of from 0 to 3 cm, and from 3 to 20 cm were separated and extracted with weak solutions of hydrochloric acid of different pH value (Table 3). Solutions of pH 6 do not extract nickel, such of pH 3 about 45%, of pH 1.3 practically entirely. It must be pointed out that samples of plants and soils in damp areas have a higher nickel content. There are 8 figures, 3 tables, and 6 Soviet references.

ASSOCIATION: Leningradskiy ordena Trudovogo Krasnogo Znameni tekhnologicheskiy institut im. Lensoveta (Leningrad Order of the Red Labor Banner Technological Institute imeni Lensovet)

SUBMITTED: October 9, 1958

Card 2/2

3(5) SOV/7-59-6-10/17

AUTHORS: Tyutina, N. A., Aleskovskiy, V. B., Vasil'yev, P. I.

TITLE: Experiment in Biogeochemical Testing and Methods of Niobium Determination in Plants

PERIODICAL: Geokhimiya, 1959, Nr 6, pp 550 - 554 (USSR)

ABSTRACT: The region of the central Timan in the Komi ASSR was investigated. Niobium was spectrophotometrically determined according to the rhodanide method with a device of the SF-4 type (Refs 8, 9). It was precipitated from the solution with manganese oxyhydrate for the purpose of concentration. This precipitation is complete in the range of up to 50 μg Nb (Fig 1). Two methods were devised: analysis of the plant ash and analysis without previous ashing (oxalate extraction). Spectrum analyses were made with the device ISP-28. Tables 1 and 2 show the results by means of some control samples. Most of the plants were found to have a niobium portion of from 0 to 3 μg contained in 5 g dry leaves, partly, however, up to 50 - 70 μg. It is possible to draw diagrams with distinct maxima (Fig 2). The following plants concentrate niobium: Rubus arcticus L., Vaccinium myrtillus L., Chamaenerium angustifolium L., Betula pubescens Ehrh., and Betula verrucosa

Card 1/2

SOV/7-59-6-10/17

Experiment in Biogeochemical Testing and Methods of Niobium Determination in Plants

Ehrh. - A. Ya. Fedotova, Zap. geofizicheskiy trest (Zap. Geophysical Trust) assisted in the experimental work. Papers of A. P. Vinogradov, D. P. Malyuga, and S. M. Tkalich are mentioned. There are 2 figures, 3 tables, and 10 references, 8 of which are Soviet.

ASSOCIATION: Leningradskiy tekhnologicheskiy institut im. Lensoveta (Leningrad Institute of Technology imeni Lensovet)

SUBMITTED: March 16, 1959

Card 2/2

S/081/60/000/012(II)/009/010
A006/A001

Translation from: Referativnyy zhurnal, Khimiya, 1960, No. 12 (II), p. 500, # 48491

AUTHORS: Fedot'yev, N.P., Aleskovskiy, V.B., Vyacheslavov, P.M., Volokhonskiy, N.V., Romanova, T.L.

TITLE: Microhardness and the Degree of Purity of Electrolytic Cobalt Surfaces

PERIODICAL: Tr. Leningr. tekhnol. in-ta im. Lensoveta, 1959, No. 53, pp. 37-42

TEXT: The authors studied the effects on microhardness and electrolytic Co surface roughness of the thickness of the coating, pH of the electrolyte, D_c, temperature and the anode material. It is established that microhardness increases and roughness decreases with a reduced thickness of the deposit, pH raising from 3.5 to 5, increase in D_c to 2.5 amp/dm^2 and dropping temperature. An equation is derived on the correlation of the roughness degree with the microhardness of the cobalt deposits : $H = Kh^n$ where H is the microhardness,

Card 1/2

S/081/60/000/012(II)/009/010
A006/A001

Microhardness and the Degree of Purity of Electrolytic Cobalt Surfaces

kg/mm^2; h is the degree of roughness, μ (?), K and n are the coefficients depending on the nature on the metal deposited (K = 275 and n = 0.08 for Co). To obtain Co deposits with a high degree of roughness, the authors recommend a $CoSO_4 \cdot 7H_2O$ solution of 200 g/l; pH 2 - 3.5, temperature 60 - 70°C, D_c = 10-25 amp/dm^2, and a Pb anode.

The authors' resumé

Card 2/2

ALESKOVSKIY, V.B.; SEMIKOZOV, O.S.; KALINKIN, I.P.

Photometric determination of microquantities of copper by lead diethyldithiocarbamate. Trudy LTI no.61:144-149 '60.
(MIRA 15:5)
(Copper--Analysis) (Electrolytes) (Carbamic acid)

35188

11.3140

S/153/60/003/003/034/036/XX
E194/E484

AUTHORS: Tsyplyatnikov, G.P., Aleskovskiy, V.B.

TITLE: A thermo-chemical gas analyser for continuous determination of oxygen

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Khimiya i khimicheskaya tekhnologiya, 1960, Vol.3, No.3, pp.550-559

TEXT: The thermo-chemical method of determining oxygen concentration in gases is based on measuring the temperature of the catalytic reaction of oxidation on an active catalyst in the gas stream. A recent automatic instrument of this kind is gas analyser type ТХГ-5 (TKhG-5) (Ref.2: Instruments developed by the experimental design office for Automatics Branch of Technical Information Office of GIAP, Moscow, 1953, p.11; Ref.3: Thermo-chemical Gas Analyzer type TKhG-5. All-Union Industrial Exhibition, MKhP USSR, Moscow, 1956). This instrument covers the range 0 to 1% O_2 and is used to determine oxygen in hydrogen or vice versa. In studying the flameless combustion of hydrogen on a Pt/Pt-Rh thermocouple, the authors concluded that it was possible to use a simple type of burner for the continuous determination of

Card 1/3

oxygen in gas mixtures. The operating principle is that flameless combustion of hydrogen, initiated by heating, occurs on the junction of a catalytically active thermocouple located immediately above a tube which delivers hydrogen into a vessel containing an atmosphere of the gas, which contains oxygen, to be analysed. The couple e.m.f. is proportional to the oxygen concentration. As the process of flameless combustion is usually unstable at oxygen contents below 10%, the object of the present work was to make equipment of this kind work at concentrations below 10% by raising the temperature of the reaction. The original experimental burner is first described. The incoming hydrogen and gas in the vessel are heated, the cold junction of the catalytic thermocouple (Pt/Pt-Ir) is in the ambient gas. The ambient temperature of the gas, in which the catalytic thermocouple is located, is measured by a chromel-alumel thermocouple. The bulb surrounding the burner is thermally insulated. In the absence of combustion, the thermocouple e.m.f. was practically zero. Flameless combustion occurred spontaneously at a temperature of 150°C. With the gas heated to 250 - 300°C, stable flameless combustion occurs with oxygen concentration down to some tenths

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of 1%. The test results obtained with this experimental model are described. On the basis of these results a prototype automatic gas analyser for oxygen was developed and tested. The burner head is illustrated diagrammatically in Fig.5. To reduce heat losses the burner head is contained in a double walled dewar flask 4. The gas containing oxygen is delivered at a steady rate through the tube 10 and hydrogen is delivered also at a steady rate through the tube 8. both are heated by the heating coil 9 to a temperature of 250 to 300°C. The catalytic Pt/Pt-Ir thermocouple 4 is located 2 to 3 m above the top of the hydrogen delivery tube. The cold junction of the catalytic couple 6 is outside of and 2 to 3 mm below the top of the hydrogen delivery tube. The temperature at this place is measured by a chromel-alumel couple 5. With this arrangement when spontaneous ignition has occurred and flameless combustion is taking place the thermocouple e.m.f. is proportional to the oxygen concentration. The layout of the prototype equipment is described and operating instructions are given. Fig.8 shows a curve of the catalytic thermocouple e.m.f. as function of hydrogen flow. The gas temperature was 270°C with

incoming gas at the rate of 300 ml/min at a temperature of 19°C The oxygen concentration with the various curves is 1 - 1.8%, 2 - 5%, 3 - 7.3%, 4 - 10%. It will be seen that with an oxygen concentration of 1.8%, stable flameless combustion occurs with a hydrogen delivery rate of 1.5 ml/min. Graphs of this kind are used to determine the optimum rate of hydrogen delivery and then for set conditions the reading of a millivolt meter connected to the catalytic thermocouple can be calibrated in oxygen content. Fig.9 shows curves of the relationship between the couple e.m.f. and oxygen content for the following rates of hydrogen flow. Curve 1, 5 ml/min, curve 2, 10 ml/min, curve 3, 15 ml/min. Practical recommendations are made about operating conditions. In determining the oxygen concentration of a mixture of oxygen and nitrogen in the range of 1 to 10% oxygen, the results agreed with those obtained on a ВТИ (VTI) type gas analyser (which has an error of ± 0.1%) to within ± 0.3 to 0.5%, i.e. 5% of maximum scale value. The lower limit of oxygen concentration to deflect the meter was 0.2%. The instrument reacted to changes of gas concentration after about 20 seconds. The equipment is simple and can be readily adapted to automatic measurement of oxygen

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concentration over a wide range of concentrations with sufficient accuracy and speed. The change in e.m.f. corresponding to a change of 1% oxygen concentration is 0.4 to 0.9 mV. With further development, the sensitivity and accuracy will probably be improved, the method can be used to determine oxygen in a mixture with incombustible gases and vapours and could be modified to determine oxygen in certain combustible gases without the use of hydrogen. There are 9 figures, 3 tables and 5 references: 4 Soviet and 1 non-Soviet. The reference to an English language publication reads as follows: F.Call. J.Scient.Instrum. 29, 246 (1952).

ASSOCIATION: Leningradskiy tekhnologicheskiy institut im. Lensoveta; Kafedra analiticheskoy khimii (Leningrad Institute of Technology imeni Lensovet; Chair of Analytical Chemistry)

SUBMITTED: November 10, 1958

86287

S/153/60/003/005/004/016
B013/B058

5.3600 2205

AUTHORS: Aluskovskiy, V.B., Kol'tsov, S.I.

TITLE: Reaction of Carbon Tetrachloride With Active Silicon Dioxide. I. Dissociation Kinetics of CCl_4 in Silica Gel

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Khimiya i khimicheskaya tekhnologiya, 1960, Vol.3, No.5, pp. 852 - 856

TEXT: The dissociation of carbon tetrachloride in silica gel was studied this paper. Industrial silica gel was used. It was freed from iron by means of hydrochloric or sulfuric acid, washed with water and activated at a temperature of about 390°C. Carbon tetrachloride was dried over calcium chloride, and distilled twice. A fraction boiling at 76.7° -77°C was used. The experiments were made in the air current as well as in a nitrogen current cleaned of oxigen. An instrument shown in Fig.1 was used for studying the dissociation kinetics. The temperature dependence of carbon tetrachloride in activated silica gel is shown in Fig.2, where a similar dependence for quartz (3) is shown for comparison. It can be seen therefrom that the reaction of the samples treated with hydrochloric acid (1)

Card 1/3

Reaction of Carbon Tetrachloride With Active Silicon Dioxide. I. Dissociation Kinetics of CCl_4 in Silica Gel

86287
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B013/B058

occurs much more extensively than of those treated with sulfuric acid (2). A distinct salient point in the curves at 310°C is remarkable. This may point to a change of the reaction character. The peculiarities of structure and properties of silica gel, compared with quartz, appear most clearly on the kinetic dissociation curves for CCl_4, which were plotted in dry air medium (Fig.3). The presence of maxima at τ = 4 - 6 minutes is characteristic. Endurance tests (up to 14 hours) showed that the degree of dissociation of CCl_4 reached after about 30 minutes remained constant during the whole experiment. When repeating the experiments with the same sample (Fig.4), it was, however, established that the intensity of dissociation dropped gradually. At least two consecutive reactions can be inferred therefrom. The course of the calculated temperature dependence of the logarithms of the constants k_1 and k_2 (Fig.5) clearly points to a change of the reaction character at 300°C. The following cause of this change can be inferred from a comparison of experimental with published data: One reaction mechanism is replaced by another at 300°C. At experiments in pure nitrogen medium at temperatures slightly above 300°C, the separation of an extremely reactive

Card 2/3

86287

Reaction of Carbon Tetrachloride With Active Silicon Dioxide. I. Dissociation Kinetics of CCl_4 in Silica Gel

S/153/60/003/005/004/016
B013/B058

chlorine-containing substance behind the silica-gel layer is observed. This substance has not yet been finally identified. It may be assumed that rather stable CCl_3 radicals are formed here (the life-time of these radicals being 1.18 sec? (Ref.9)), which are quickly dimerized in the absence of oxygen $2 \cdot CCl_3 \rightarrow C_2Cl_6$ and which do not react with aqueous aniline solution. There are 5 figures and 9 references: 3 Soviet, 2 German, 2 US, 1 British and 1 Swedish.

ASSOCIATION: Leningradskiy tekhnologicheskiy institut im. Lensoveta. Kafedra analiticheskoy khimii (Leningrad Technological Institute imeni Lensovet . Department of Analytical Chemistry)

SUBMITTED: November 10, 1958

Card 3/3

55310 1273, 1282, 1160

S/081/62/000/012/009/038
B000/B156

AUTHORS: Kalinkin, I. P. and Aleskovskiy, V. B.

TITLE: News in Brief

PERIODICAL: Zavodskaya laboratoriya, 1960, Vol. 26, No. 12, p. 1358

TEXT: The authors suggest a method of determining copper (up to $2.5.10^{-5}$ %) in selenides of cadmium and zinc and in sulfates, chlorides, and nitrides of cadmium and zinc in a purified solution by means of a solution of lead diethyl dithiocarbamate in chloroform. This reagent gives copper-carbamate with copper, which gives a yellow color to the chloroform layer. The determination is spectrophotometrically carried out at λ = 436 mμ with the help of a calibration curve. A similar method may also be used for determining cadmium and zinc sulfides. Small quantities (1 - 1.10^{-3} %) of chlorine in cadmium selenide may be indirectly determined by opening up the weighed portion with HNO_3, which contains $AgNO_3$. The AgCl precipitate formed is filtered off, dissolved in ammonia, and a Na_2S-solution

Card 1/2

S/032/60/026/012/008/036
B020/B056

in aqueous glycerin is added. The Ag_2S-sol formed is photometrized at 430 mμ, and the chlorine content is determined from the calibration curve. For the spectrophotometric determination of microquantities of nickel (up to $5 \cdot 10^{-5}$ %) in cadmium selenide a method using dimethylglyoxime at 470 mμ worked out without separation from the mass of the cadmium. As an oxidizing agent, ammonium persulfate, and for alkylation, instead of NaOH, concentrated ammonium was used. In a similar manner, microquantities of Ni in purified cadmium- and zinc sulfate-, -chloride- and nitrate-solutions, and in cadmium- and zinc sulfide may be determined.

ASSOCIATION: Leningradskiy tekhnologicheskiy institut im. Lensoveta
(Leningrad Institute of Technology imeni Lensovet)

KOVAL'TSOV, Viktor Akimovich; ALESKOVSKIY, Valentin Borisovich; TOMARCHENKO, S.L., red.; LEVIN, S.S., tekhn. red.

[Determination of oxygen dissolved in water] Opredelenie rastvorennogo v vode kisloroda. Leningrad, Goskhimizdat, 1961. 51 p. (MIRA 16:6)
(Oxygen--Analysis) (Feed water)

24.7000 1043, 1160, 1143

28081
S/181/61/003/009/013/039
B102/B104

AUTHORS: Kalinkin, I. P., Sergeyeva, L. A., Aleskovskiy, V. B., and Strakhov, L. P.

TITLE: Production of cadmium selenide single crystals

PERIODICAL: Fizika tverdogo tela, v. 3, no. 9, 1961, 2640-2645

TEXT: A number of methods are known for the production of semiconductor single-crystal films, however, the properties of these films mainly depend on the type of the backing and the production conditions. To study these dependences the authors produced CdSe films on alkali halide backings under very rigorous conditions. The initial material was CdSe (impurities $6\cdot10^{-4}$% Fe, $2\cdot10^{-4}$% Cu, $2\cdot10^{-4}$% Ni, $5\cdot10^{-4}$% Co, $5\cdot10^{-5}$% Mn) supplied by the works "Krasnyy khimik" (Red Chemist) and was heated in a vacuum. The (111) faces of artificial NaCl, KCl, and KBr single crystals, treated by different methods and examined under a metallographic microscope, type МИМ-7 (MIM-7), and a БС-242 (BS-242) electron microscope prior to the sputtering of CdSe, were used as backings. It was found that the surface

Card 1/3

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B102/B104

Production of cadmium selenide ...

properties of the backing depend largely on the treatment methods (polishing, heating). In the production of the films sublimation temperature and sublimation rate were more important than the surface property of the backing. Also a previous annealing in a muffle furnace at 350 or 500°C for 1-3 hr proved important . In the experiments CdSe was sputtered on well and poorly polished, annealed and non-annealed backings. The experiments showed that: (1) independently of the lattice constants of the backing, hexagonal polycrystalline CdSe films with C = 7.02 Å and c = 4.3 Å were formed. Already a 15-min annealing at 350°C was sufficient to achieve partial orientation of the films. (2) At a backing temperature of 150-200°C during sputtering, the orienting effect of the backing on the film was much stronger, especially with previous annealing. 3) At 250°C the films sputtered onto annealed and non-annealed backings differed considerably. The major part of the crystals formed a mosaic single crystal with the face (0001) parallel to (111) of the backing. 4) At a backing temperature of 300-350°C during the sublimation a hexagonal monocrystalline film was formed independently of the previous annealing. 5) Purity and structure of the backing surface did not essentially influence surface and structure of the film. The single crystal films obtained under optimum

Production of cadmium selenide ...

conditions had an area of 2-12 cm^2. There are 7 figures, 1 table, and 16 references: 8 Soviet and 8 non-Soviet. The three most recent references to English-language publications read as follows: R. P. Ruth, J. C. Marinace, W. C. Dunlap. J. Appl. Phys., 31, 6, 995, 1960.
J. H. V. Setty, H. Wilman. Trans. Farac. Soc., 51, 7, 984, 1955.
R. Davis, H. F. Lever, J. Appl. Phys., 27, 835, 1956.

ASSOCIATION: Leningradskiy tekhnologicheskiy institut im. Lensoveta
(Leningrad Technological Institute imeni Lensovet)

SUBMITTED: April 3, 1961

Card 2/2

ALESKOVSKAYA, V. B.

128

PHASE I BOOK EXPLOITATION SOV/6246

Soveshchaniye po tseolitam. 1st, Leningrad, 1961.

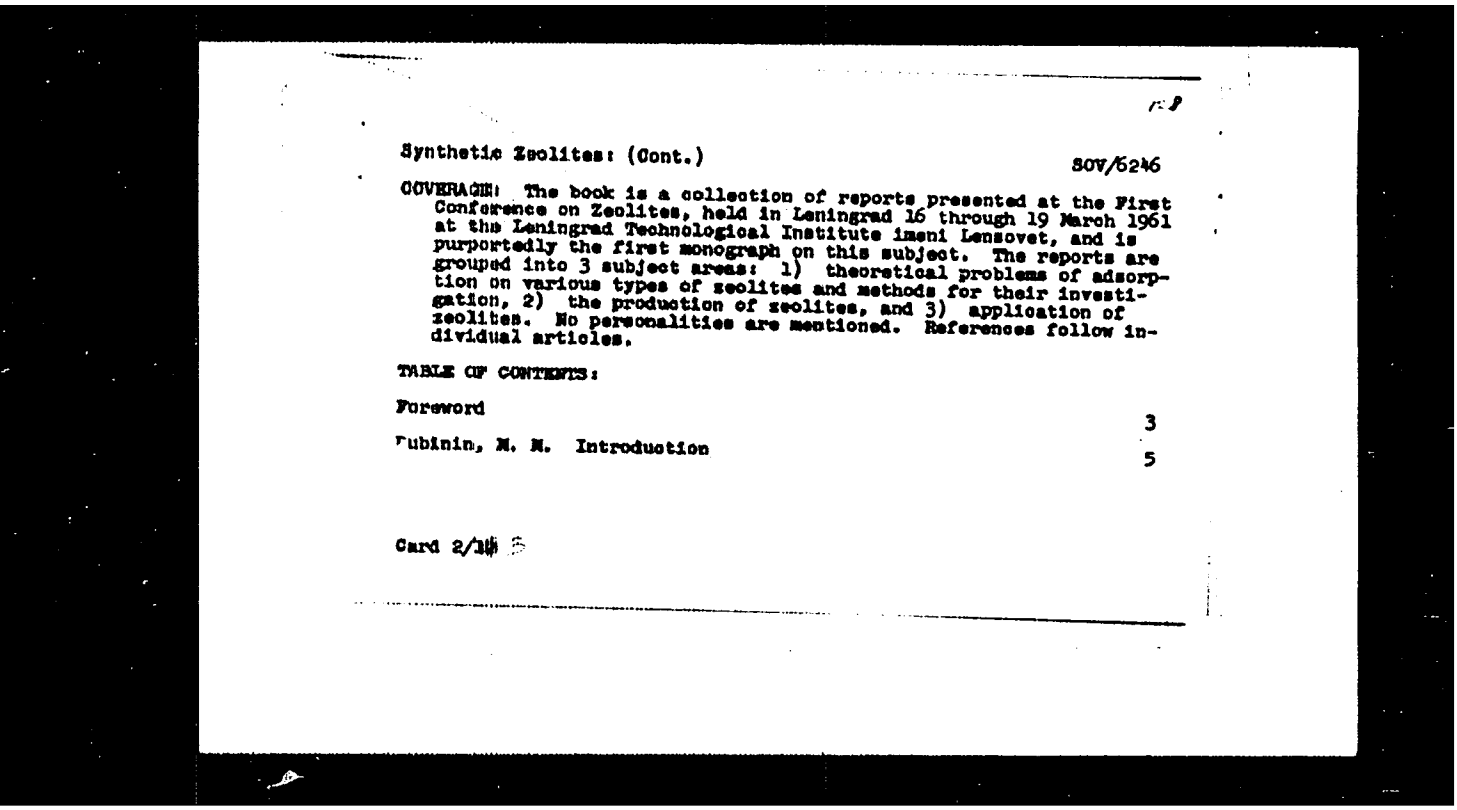
Sinteticheskiye tseolity; polucheniye, issledovaniye i primeneniye (Synthetic Zeolites: Production, Investigation, and Use). Moscow, Izd-vo AN SSSR, 1962. 286 p. (Series: Its: Doklady) Errata slip inserted. 2500 copies printed.

Sponsoring Agency: Akademiya nauk SSSR. Otdeleniye khimicheskikh nauk. Komissiya po tseolitam.

Resp. Eds.: M. M. Dubinin, Academician and V. V. Serpinskiy, Doctor of Chemical Sciences; Ed.: Ye. G. Zhukovskaya; Tech. Ed.: S. P. Golub'.

PURPOSE: This book is intended for scientists and engineers engaged in the production of synthetic zeolites (molecular sieves), and for chemists in general.

Card 1/10



Synthetic Zeolites: (Cont.) SOV/6246

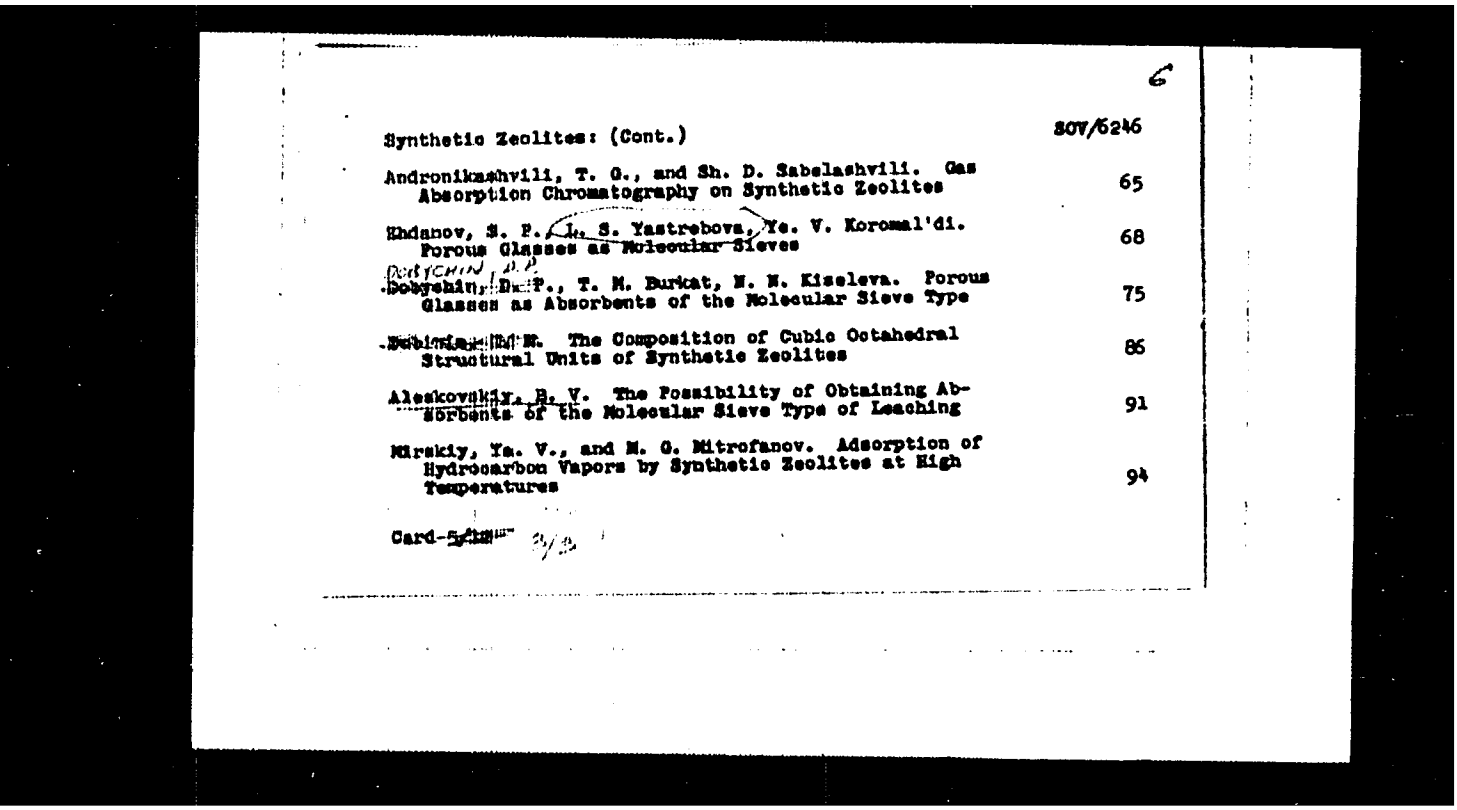
COVERAGE: The book is a collection of reports presented at the First Conference on Zeolites, held in Leningrad 16 through 19 March 1961 at the Leningrad Technological Institute imeni Lensovet, and is purportedly the first monograph on this subject. The reports are grouped into 3 subject areas: 1) theoretical problems of adsorption on various types of zeolites and methods for their investigation, 2) the production of zeolites, and 3) application of zeolites. No personalities are mentioned. References follow individual articles.

TABLE OF CONTENTS:

Foreword 3

Rubinin, M. M. Introduction 5

Card 2/14



6

Synthetic Zeolites: (Cont.) SOV/6246

Andronikashvili, T. G., and Sh. D. Sabelashvili. Gas Absorption Chromatography on Synthetic Zeolites 65

Khdanov, S. P., L. S. Yastrebova, Ye. V. Koromal'di. Porous Glasses as Molecular Sieves 68

Dobychin, D. P., T. M. Burkat, N. N. Kiseleva. Porous Glasses as Absorbents of the Molecular Sieve Type 75

[illegible] M. E. The Composition of Cubic Octahedral Structural Units of Synthetic Zeolites 86

Aleskovskiy, B. V. The Possibility of Obtaining Absorbents of the Molecular Sieve Type of Leaching 91

Mirskiy, Ya. V., and M. G. Mitrofanov. Adsorption of Hydrocarbon Vapors by Synthetic Zeolites at High Temperatures 94

Card-5/13

ALESKOVSKIY, V. [Aleskovs'kyi, V.], doktor khim.nauk, prof. (Leningrad);
DUSHINA, A. [Dushyna, A.], aspirant (Leningrad)

Chemical elements out of sea water. Nauka i zhyttia 11
no.3:19-20 Mr '62. (MIA 15:8)
(Sea water--Composition)

ALESKOVSKIY, V. B.; KOVAL'TSOV, V. A.; FEDOROV, I. N.; TSYPLYATNIKOV, G. P.

Continuous automatic determination of oxygen in water. Zav. lab. 28 no.12:1440-1442 '62. (MIRA 16:1)

1. Leningradskiy tekhnologicheskiy institut im. Lensoveta.

(Oxygen—Analysis) (Water—Analysis)

DUSHINA, Avgusta Petrovna; ALESKOVSKIY, Valentin Borisovich; GRIVA, Z.I., red.; FOMKINA, T.A., tekhn. red.

[Silica gel, an inorganic cation exchanger] Silikagel' - neorganicheskii kationit. Leningrad, Goskhimizdat, 1963. 89 p. (MIRA 17:1)
(Ion exchangers) (Silica)

KOL'TSOV, S.I.; ALESKOVSKIY, V.B.; GRIVA, Z.I., red.

[Silica gel, its structure and chemical properties] Silikagel', ego stroenie i khimicheskie svoistva. Leningrad, Goskhimizdat, 1963. 95 p. (MIRA 18:7)

S/181/63/005/001/020/064
B102/B186

AUTHORS: Kalinkin, I. P., Sergeyeva, L. A., Aleskovskiy, V. B., and Strukhov, L. P.

TITLE: Investigation of the structure of thin cadmium selenide films condensed onto the (100) and (110) faces of rock-salt single crystals

PERIODICAL: Fizika tverdogo tela, v. 5, no. 1, 1963, 124-128

TEXT: CdSe was sublimated under conditions described in FTT, 3, 9, 2640, 1962 and deposited on the (100) and (110) faces of NaCl kept either at room temperature or at 250° or 300-350°C. The hexagonal polycrystalline films (c=7.02Å a=4.5)Å formed on these faces were investigated using a microscope, an electron microscope and electron diffraction. In the case of sublimation at 250°C onto the (100) face the following phases were observed: A cubic one with $(100)_{cub} \parallel (100)_{NaCl}$ and $[1\bar{1}0]_{cub} \parallel [100]_{NaCl}$; two hexagonal phases with $(0001)_h \parallel (100)_{NaCl}$, $[11\bar{2}0]_h \parallel [1\bar{1}0]_{cub}$; a polycrystalline hexagonal phase; mixed phases e. g. cubic with hexagonal

Card 1/2

interlayers, or cubic interlayers turned through 180°. With base temperatures of 300-350°C no change in film structure was observed. In the case of optimum sublimation of CdSe onto $(110)_{NaCl}$, a most perfect film with $(110)_{CdSe} \parallel (110)_{NaCl}$ was produced. The film obtained at 250° base temperature was less perfect. In order to eliminate the uncontrollable effects of oil vapors contained in the vacuum chamber, the etching figures obtained with several agents were studied by means of an MIM-7 (MIM-7) metal microscope. The etching figures were in all cases square pyramids oriented diagonally to the lattice cubes. These pyramids grew with the etching time; after 10-20 minutes etching they covered the whole face. Numerous details on the film structure obtained from electron diffraction pictures are discussed. There are 5 figures.

ASSOCIATION: Leningradskiy tekhnologicheskiy institut im. Lensoveta (Leningrad Technological Institute imeni Lensovet)

SUBMITTED: June 2, 1962 (initially)
July 23, 1962 (after revision)

Card 2/2

BYSTRITSKIY, A.L.; ALESKOVSKIY, V.B.; BARDIN, V.V.

New potentiometric method for determining the microgram quantities of bromide ions in water. Izv.vys.ucheb.zav.;khim.i khim.tekh. 6 no.1:31-34 '63. (MIRA 16:6)

1. Leningradskiy tekhnologicheskiy institut imeni Lensoveta, kafedra analiticheskoy khimii.
(Bromides) (Potentiometric analysis)

LAPITSKAYA, S.K.; YEFIMOV, L.I.; ALESKOVSKIY, V.B.

Polarographic study of the behavior of hydroquinone in methacrylic acid. Izv.vys.uchab.zav.;khim.i khim.tekh. 6 no.1:133-136 '63. (MIRA 16:6)

1. Leningradskiy tekhnologicheskiy institut imeni Lensoveta, kafedra analiticheskoy khimii.
(Hydroquinone) (Polarography) (Methacrylic acid)

LAPITSKAYA, S.K.; ALESKOVSKIY, V.B.

Effect of silica gel on the length of the induction period of polymerization of methacrylic acid. Izv.vys.ucheb.zav.;khim.i khim.tekh. 6 no.1:137-141 '63. (MIRA 16:6)

1. Leningradskiy tekhnologicheskiy institut Lensoveta, kafedra analiticheskoy khimii.
(Methacrylic acid) (Polymerization) (Silica)

L [illegible]-63 [illegible] AFFTC/ASD JD

ACCESSION NR: AP3000763 S/0070/63/008/003/0459/0461

AUTHOR: [illegible], I. P.; [illegible]; Aleksovskiy, V. B.; Strakhov, L. P.

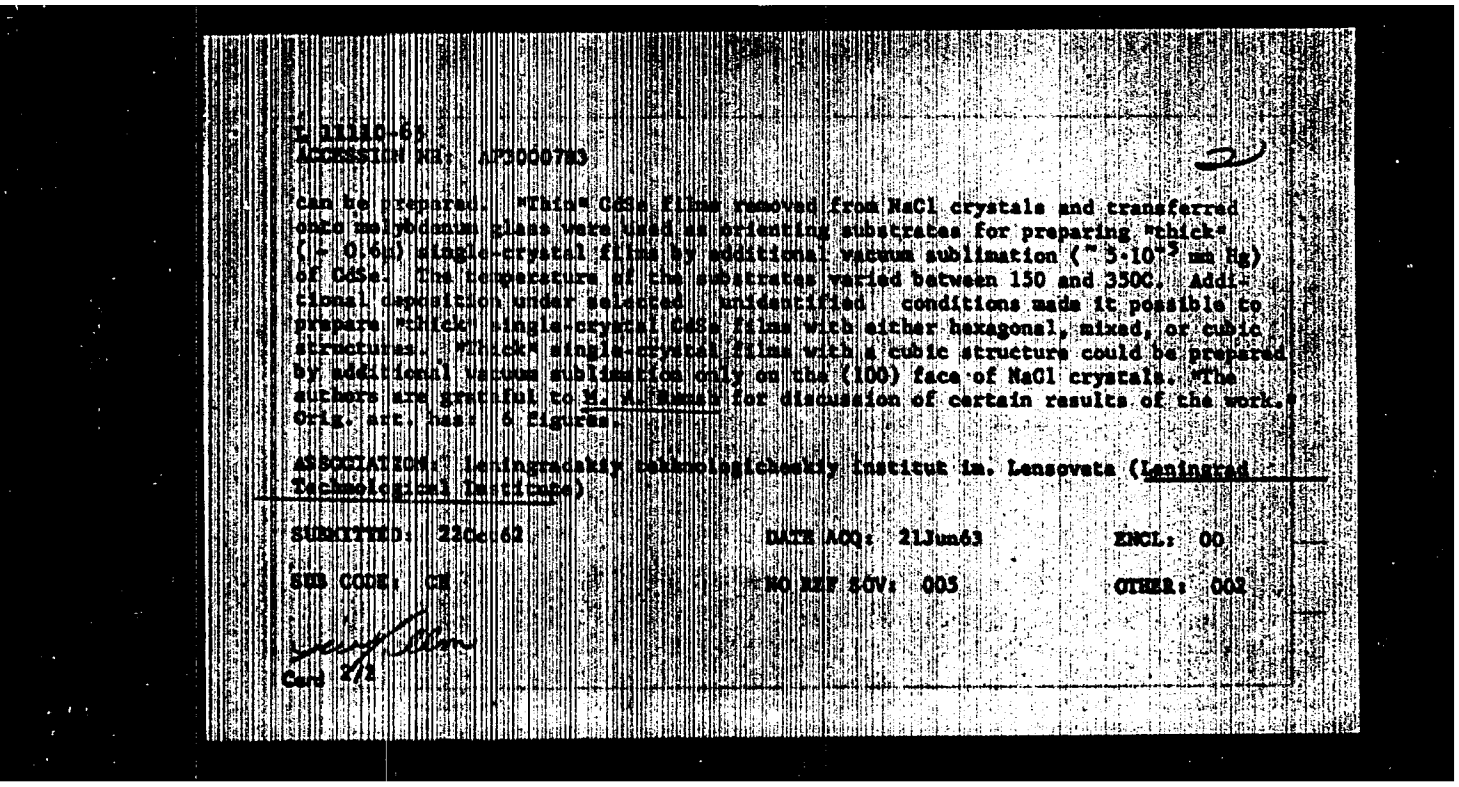
TITLE: Electron diffraction study of the structure of single-crystal cadmium selenide films

SOURCE: Kristallografiya, v. 8, no. 3, 1963, 459-461

TOPIC TAGS: film, vacuum sublimation, electron diffraction, single crystal film, oriented substrate, microstructure, molybdenum glass, decomposition, cadmium selenide film, sodium chloride

ABSTRACT: The paper describes the latest results of studies by the authors on the deposition by vacuum sublimation of CdSe films on various substrates. By using as orienting substrates NaCl crystals which were subjected to preliminary mechanical and heat treatment (at 330—550C for 1—3 hr), thin (0.05 [illegible]) CdSe single-crystal films were deposited on the (100) and (111) faces of the crystals. Electronographic study showed that, depending on preliminary treatment and etching time, films with a cubic, hexagonal, or mixed structure

Card 1/2



L 21110-63
ACCESSION NR: AP3000783

can be prepared. "Thin" CdSe films removed from NaCl crystals and transferred onto molybdenum plates were used as orienting substrates for preparing "thick" (~ 0.6μ) single-crystal films by additional vacuum sublimation (~ $5 \cdot 10^{-5}$ mm Hg) of CdSe. The temperature of the substrates varied between 150 and 350C. Additional deposition under selected, unidentified conditions made it possible to prepare "thick" single-crystal CdSe films with either hexagonal, mixed, or cubic structures. "Thick" single-crystal films with a cubic structure could be prepared by additional vacuum sublimation only on the (100) face of NaCl crystals. "The authors are grateful to M. A. Manaa for discussion of certain results of the work." Orig. art. has: 6 figures.

ASSOCIATION: Leningradskiy elektrotekhnicheskiy institut im. Lensoveta (Leningrad Electrotechnical Institute)

SUBMITTED: 22Oct62 DATE ACQ: 21Jun63 ENCL: 00

SUB CODE: GE NO REF SOV: 003 OTHER: 002

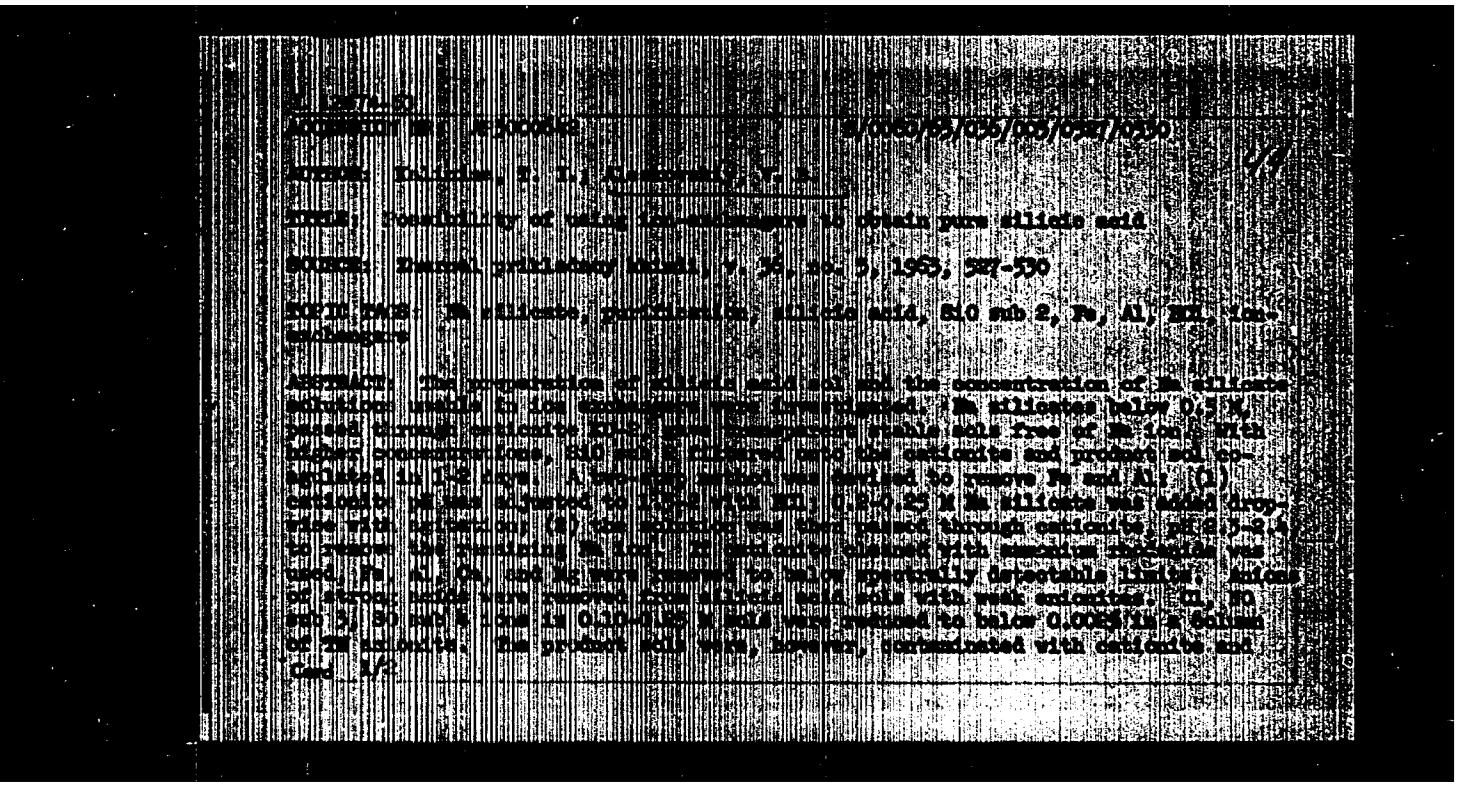
Card 2/2

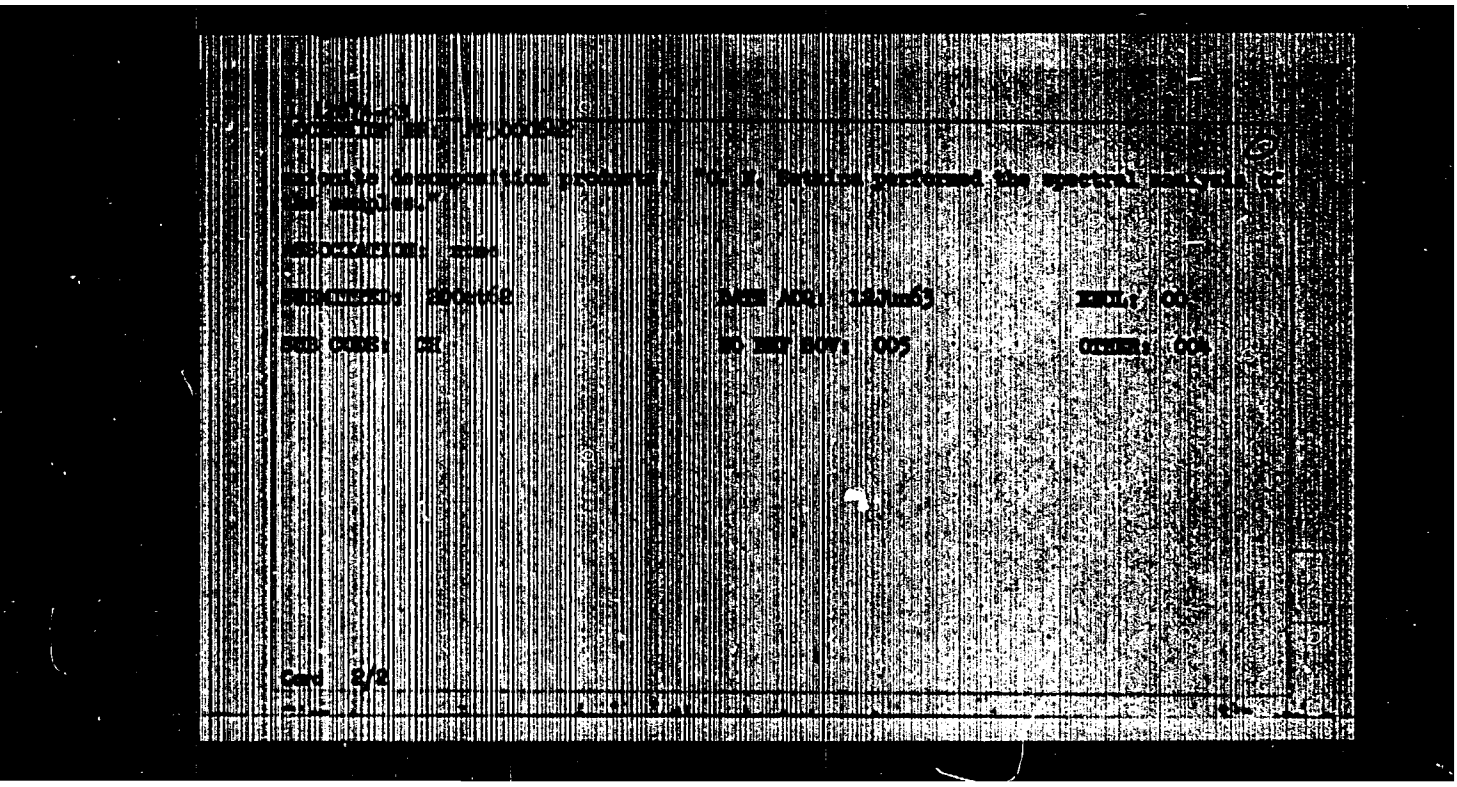
DUSHINA, A.P.; ALESKOVSKIY, V.B.

Chromatography of heavy metals on silica gel. Zhur.neorg.khim. 8 no.9:2194-2197 S '63. (MIRA 16:10)

BULATOV, M.I.; [redacted]LESKOVSKIY, V.B.

Sorption of cations by active silica. Zhur.prikl.khim. 36 no.3: 522-527 My '63. (MIRA 16:5)
(Cations) (Silica) (Sorption)





KOKK, Kh.Yu.; ALESKOVSKIY, V.B.

Determination of the submicrogram quantities of copper in the microsamples of cadmium selenide. Izv.vys.ucheb.zav.;khim. i khim.tekh. 7 no. 1:19-23 '64. (MIRA 17:5)

1. Leningradskiy tekhnologicheskiy institut im. Lensoveta, kafedra analiticheskoy khimii.

STEPANOVA, N.D.; ALESKOVSKIY, V.B.

Possible use of extraction for determining the microquantities of oxygen dissolved in water. Izv.vys.ucheb.zav.;khim. i khim. tekh. 7 no. 1:24-28 '64. (MIRA 17:5)

1. Leningradskiy tekhnologicheskiy institut im. Lensoveta, kafedra analiticheskoy khimii.

BYSTRITSKIY, A.L.; ALEKSOVSKIY, V.B.

Manufacture of nonplatinum silver halide electrodes. Izv.vys. ucheb.zav.;khim. i khim.tekh. 7 no. 1:168-169 '64. (MIRA 17:5)

1. Leningradskiy tekhnologicheskiy institut im. Lensoveta, kafedra analiticheskoy khimii.

ACCESSION NR: AP4028088 S/0057/64/034/004/0753/0758

AUTHOR: Nikolayev, O.I.; Aleskovskiy, V.B.

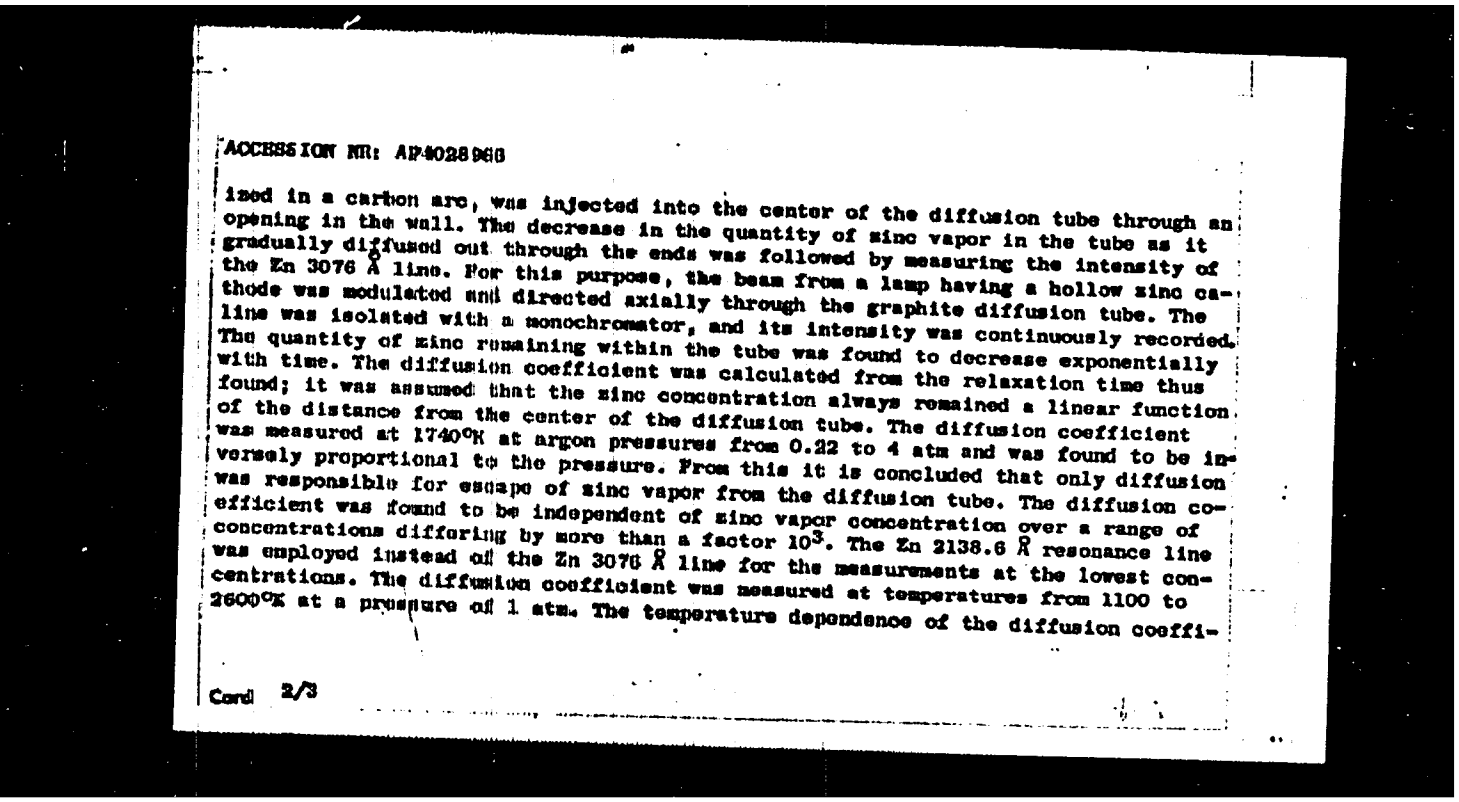
TITLE: An absorption spectroscopic method for determining the diffusion coefficients of metal atoms in an inert gas

SOURCE: Zhurnal tekhnicheskoy fiziki, v.34, no.4, 1964, 753-758

TOPIC TAGS: atomic diffusion, diffusion measurements, diffusivity, diffusion coefficient, diffusion temperature variation, zinc argon diffusion

ABSTRACT: The diffusion coefficient of zinc in argon was measured at temperatures from 1100 to 2600°K and pressures from 0.22 to 4 atm. The measurements were undertaken because of the present lack of high temperature diffusion data. The measurements were performed by the atomic absorption method of B.V.L'vov (Inzhenerno-fizicheskiy zhurnal,2,No.1,44,1959). The diffusion took place in a graphite tube 36 mm long and 3 mm in internal diameter, mounted in a larger vessel containing argon. The graphite cylinder was heated electrically, and its temperature was measured with an optical pyrometer. The interior of the graphite diffusion tube was coated with tantalum foil to prevent diffusion into the wall. A minute quantity of zinc, vapor-

Card 1/3



ACCESSION NR: AP4028968

ized in a carbon arc, was injected into the center of the diffusion tube through an opening in the wall. The decrease in the quantity of zinc vapor in the tube as it gradually diffused out through the ends was followed by measuring the intensity of the Zn 3076 Å line. For this purpose, the beam from a lamp having a hollow zinc cathode was modulated and directed axially through the graphite diffusion tube. The line was isolated with a monochromator, and its intensity was continuously recorded. The quantity of zinc remaining within the tube was found to decrease exponentially with time. The diffusion coefficient was calculated from the relaxation time thus found; it was assumed that the zinc concentration always remained a linear function of the distance from the center of the diffusion tube. The diffusion coefficient was measured at 1740°K at argon pressures from 0.22 to 4 atm and was found to be inversely proportional to the pressure. From this it is concluded that only diffusion was responsible for escape of zinc vapor from the diffusion tube. The diffusion coefficient was found to be independent of zinc vapor concentration over a range of concentrations differing by more than a factor 10^3. The Zn 2138.6 Å resonance line was employed instead of the Zn 3076 Å line for the measurements at the lowest concentrations. The diffusion coefficient was measured at temperatures from 1100 to 2600°K at a pressure of 1 atm. The temperature dependence of the diffusion coeffi-

Card 2/3

ACCESSION NR: AP4028964

cient was well represented by a simple power law with the exponent 1.6. The data were also well represented by Sutherland's expression $AT^{3/2}/(T+B)$, where T is the absolute temperature and A and B are constants. The best fit was obtained with the value 286°K for B. The values of the constants A and B in Sutherland's expression calculated from the molecular weights and volumes by the formula of J.H.Arnold (Ind. Eng.Chem.22,1091,1930) lead to values of the diffusion coefficient some 20 to 30% lower than the observed values. This is regarded as satisfactory agreement, in view of the inaccuracy of the theoretical derivation and the possibility of systematic errors in the experiments. "In conclusion we consider it our pleasant duty to express our gratitude to B.V.L'vov for a valuable discussion of some aspects of the work, and to A.N.Hodrutskova for making the hollow cathode tube available." Orig. art.has: 11 formulas, 6 figures and 1 table.

ASSOCIATION: none

SUBMITTED: 03Apr63 DATE ACQ: 28Apr64 ENCL: 00

SUB CODE: PH NR REF SOV: 004 OTHER: 003

Card 3/3

ACCESSION NR: AP4037229 S/0153/64/007/001/0019/0023

AUTHOR: Kokk, Kh. Yu.; Aleskovskiy, V. B.

TITLE: Determination of submicrogram amounts of copper in microamounts of cadmium selenide

SOURCE: Ivuz. Khimiya i khimicheskaya tekhnologiya, v. 7, no. 1, 1964, 19-23

TOPIC TAGS: copper, quantitative analysis, colorimetric analysis, photometric analysis, extraction, copper diethyldithiocarbaminate, lead diethyldithiocarbaminate

ABSTRACT: A photometric method for the quantitative determination of copper down to 3×10^{-4}% in microamounts (0.50-1.00 mg) of CdSe, with a relative error not exceeding 20%, was worked out. The method is based on the extraction of copper from aqueous solutions with a chloroform solution of diethyldithiocarbaminate (DDK) onto the end of a specially prepared white thread and determining the copper colorimetrically under a microscope by the method developed by the authors (Nauchno-tekhnicheskaya konferentsiya. LTI im. Lensovyeta. Tezisy* dokladov. (Scientific-technical Conference, Thesis Report) Goskhimizdat, L., 1963, str. 35). Viscose,

Card 1/2

ACCESSION NR: AP4037229

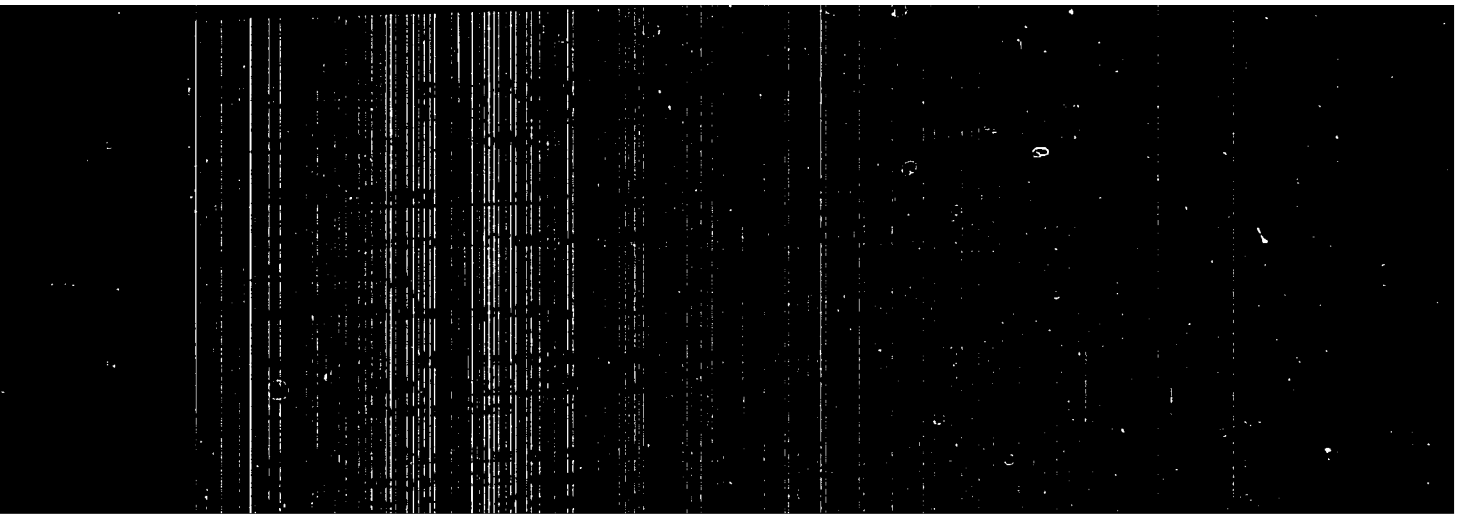
natural silk or cotton thread (cotton thread Nos. 14 and 48 were used as the standard in this work) is washed with chloroform, 1% HCl, and double-distilled water, dried, immersed in $Pb(DDK)_2$ for 20 min, washed with chloroform, treated with 0.5% gelatin solution, dried and placed in a capillary tube containing the solution of copper in CdSe. It acts as a wick to extract the copper by the exchange reaction: $Cu^{2+} + Pb(DDK)_2 \longrightarrow Cu(DDK)_2 + Pb^{2+}$. The extract is concentrated, by washing down with chloroform and evaporation under an IR lamp in a colored zone of definite length, e.g., 1-1.5 mm, at the end of the thread. The yellow concentrate is then compared with standards. Orig. art. has; 1 table and 1 figure.

ASSOCIATION: Leningradskiy tekhnologicheskiy institut im. Lensovyeta Kafedra analiticheskoy khimii (Leningrad Technological Institute, Department of Analytical Chemistry)

SUBMITTED: 15Jun63 ENCL: 00

SUB CODE: GC NO REF SOV: 006 OTHER: 005

Card 2/2



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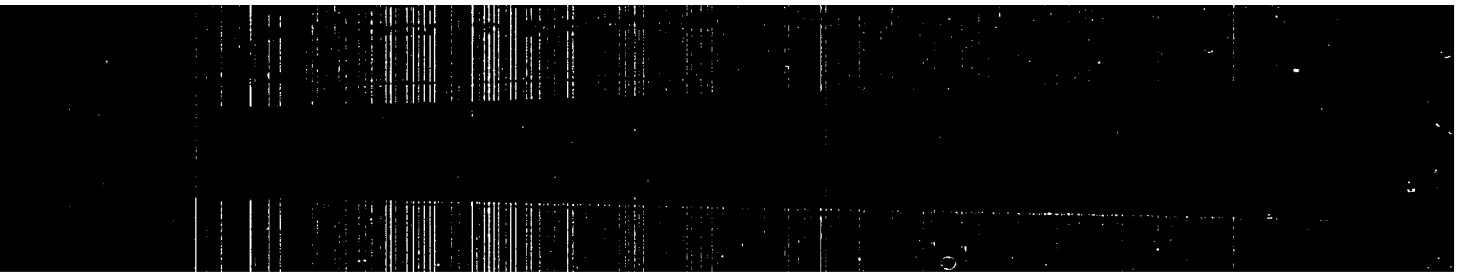

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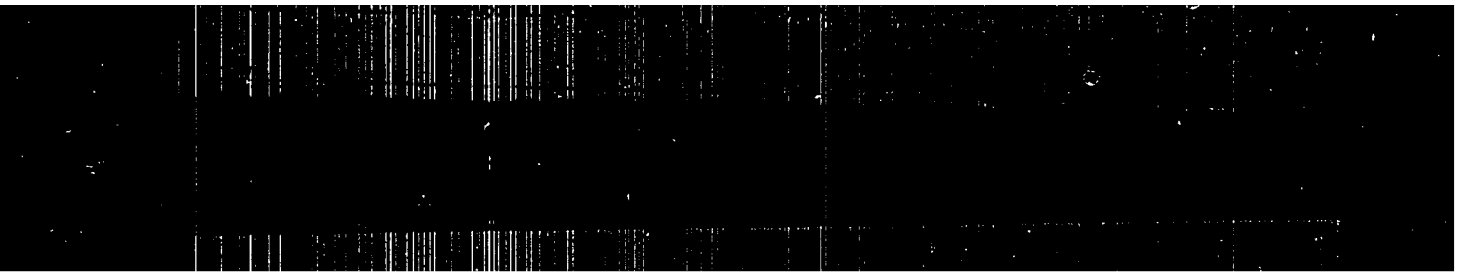

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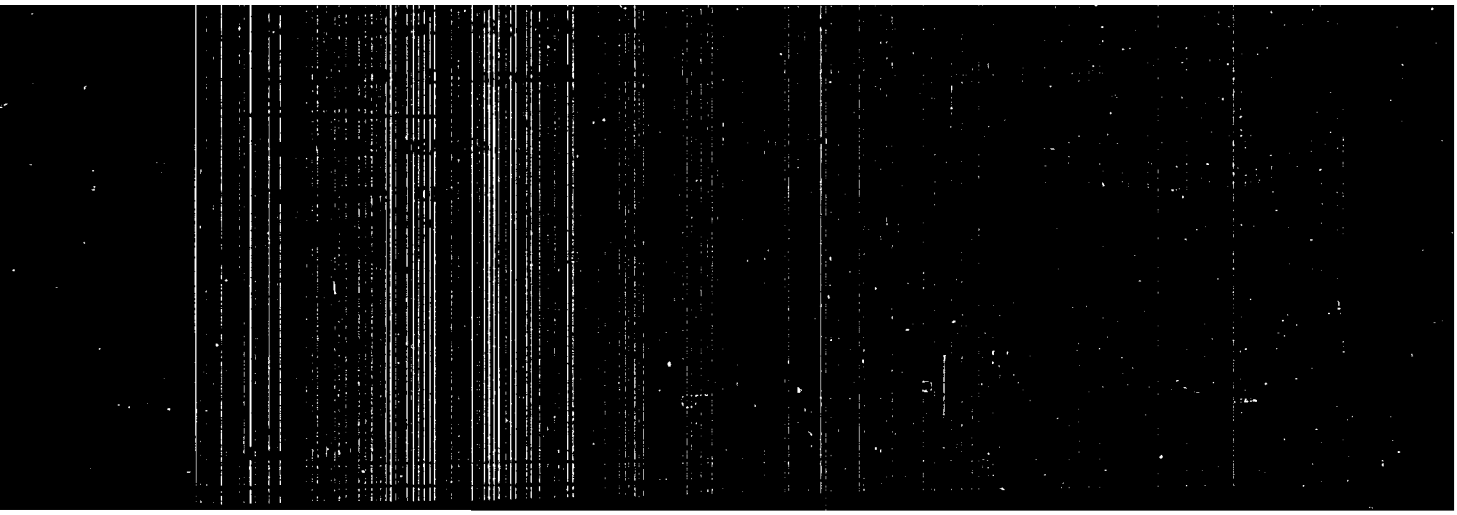

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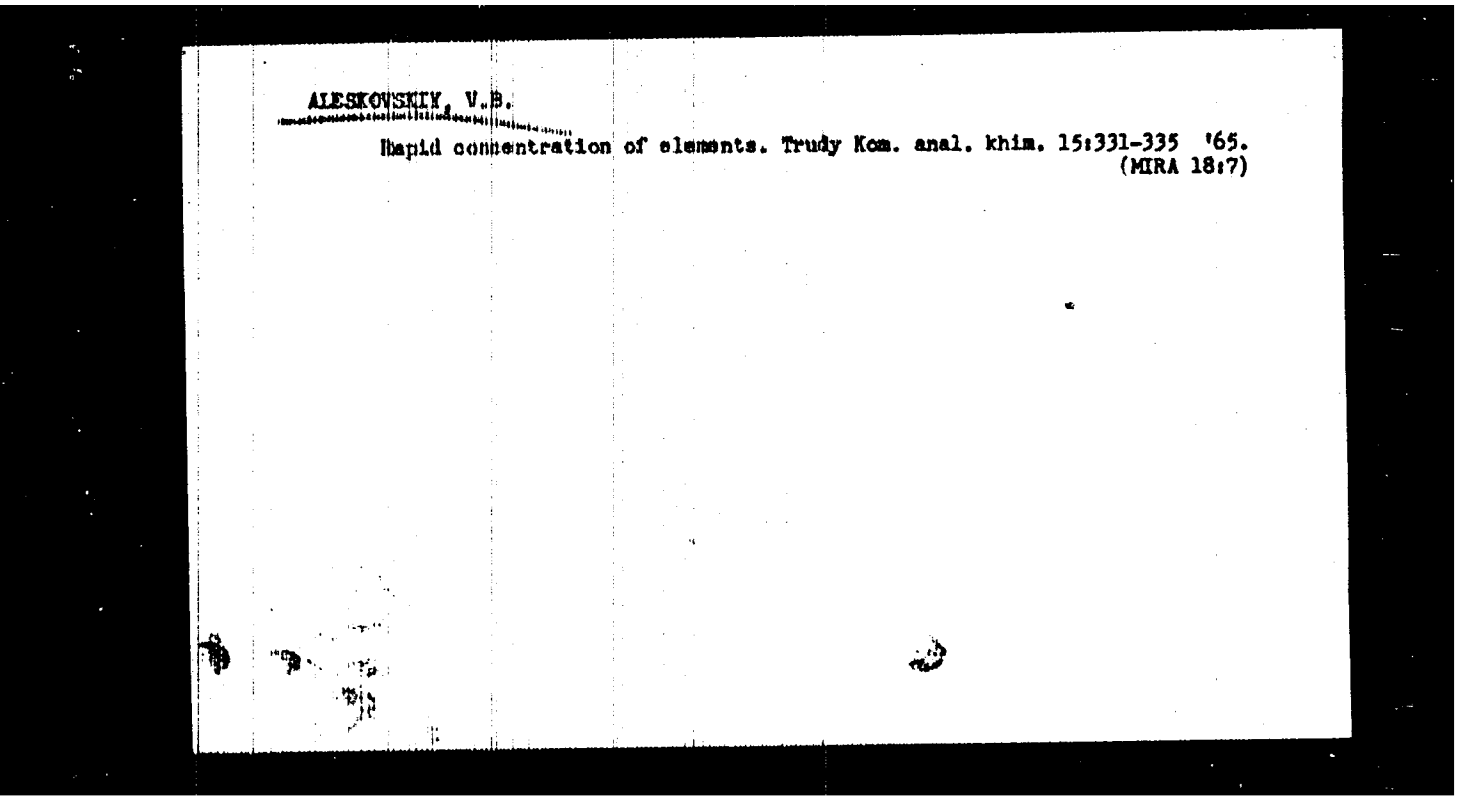
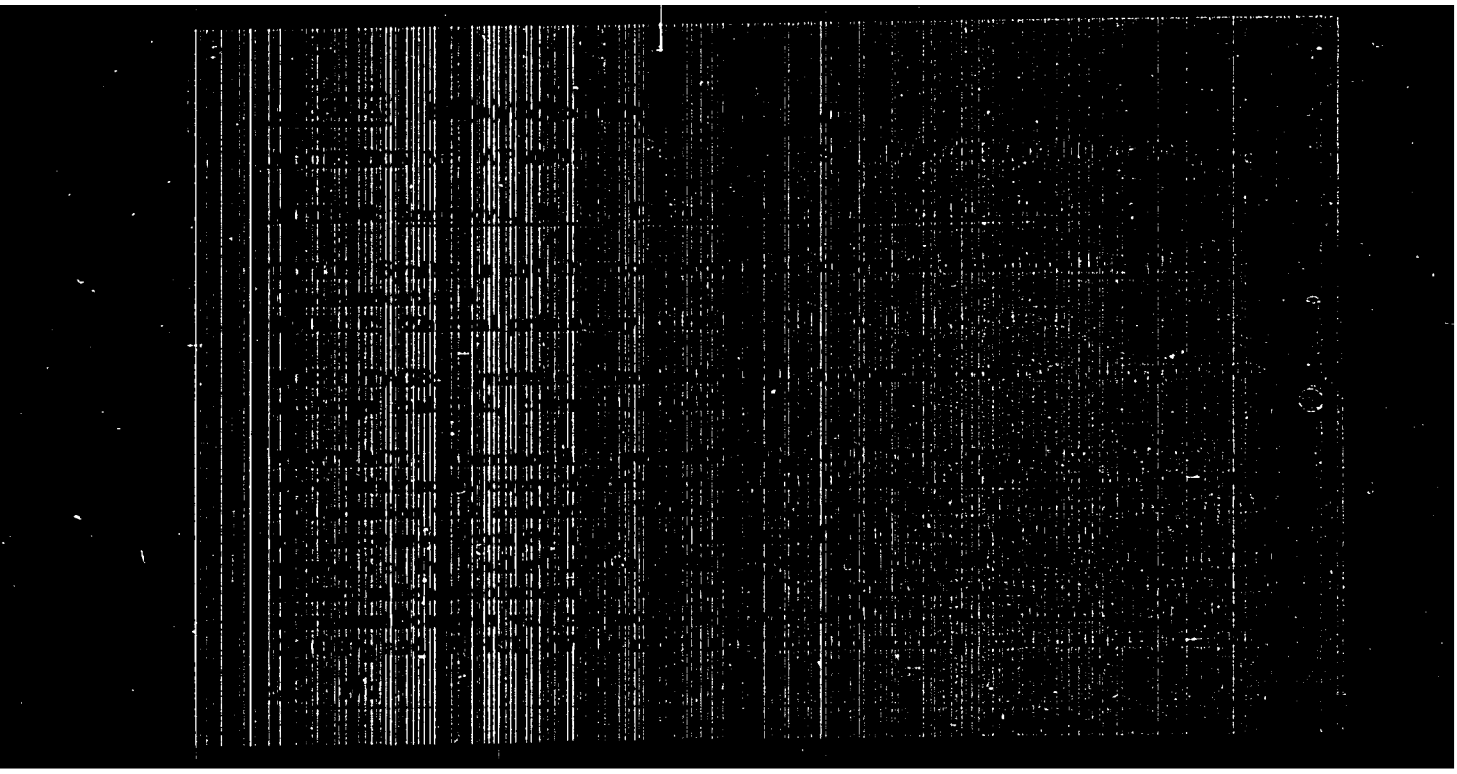


ALESKOVSKIY, V.B.

Rapid concentration of elements. Trudy Kom. anal. khim. 15:331-335 '65.
(MIRA 18:7)



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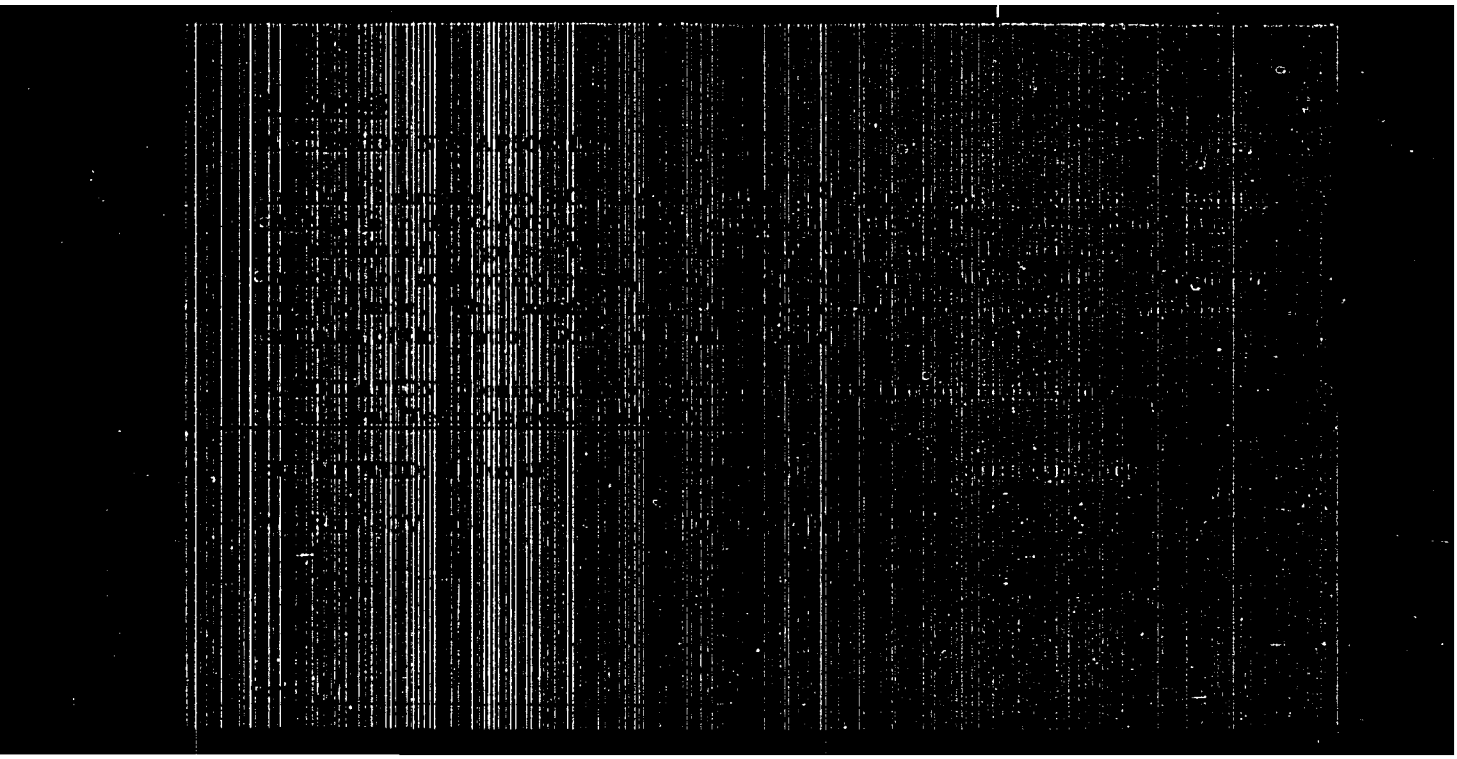

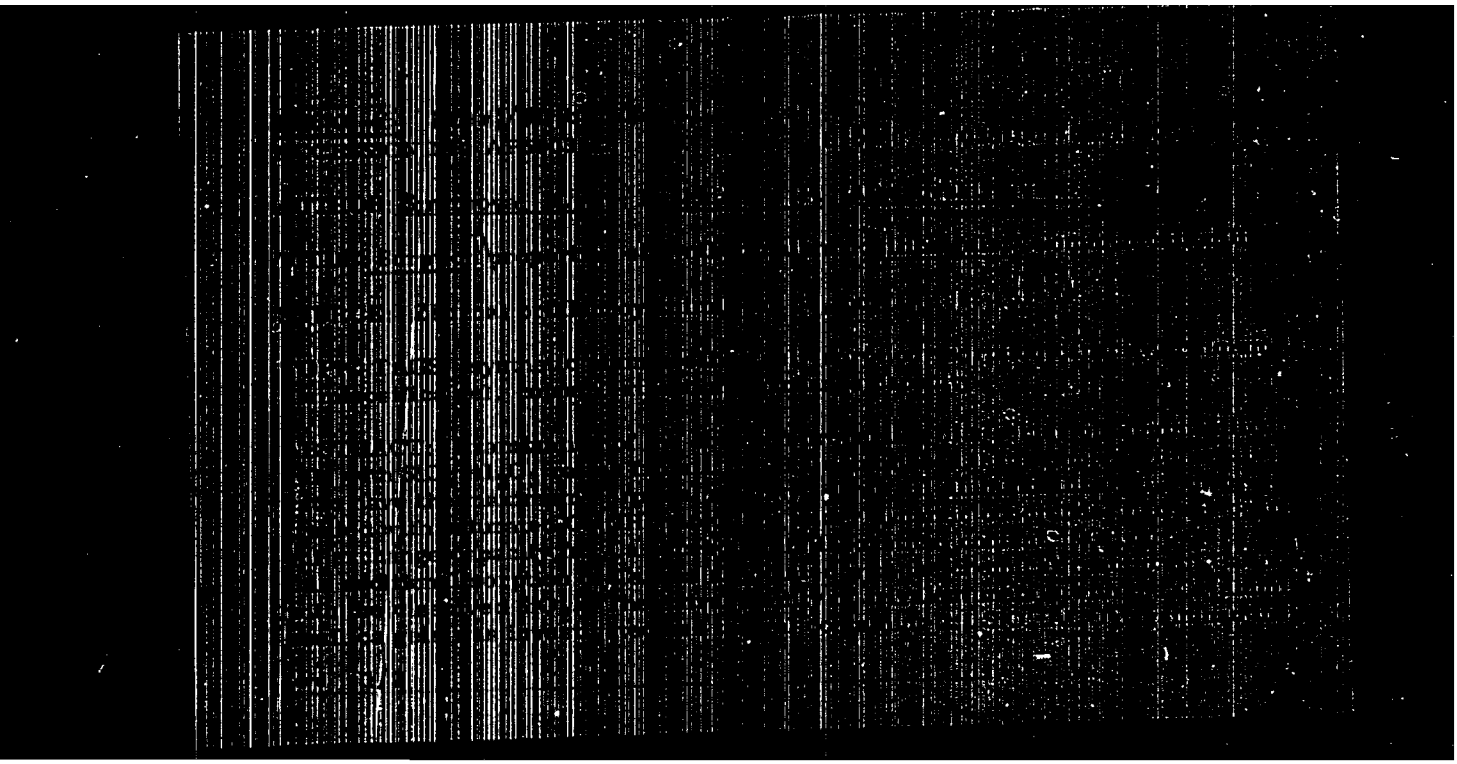

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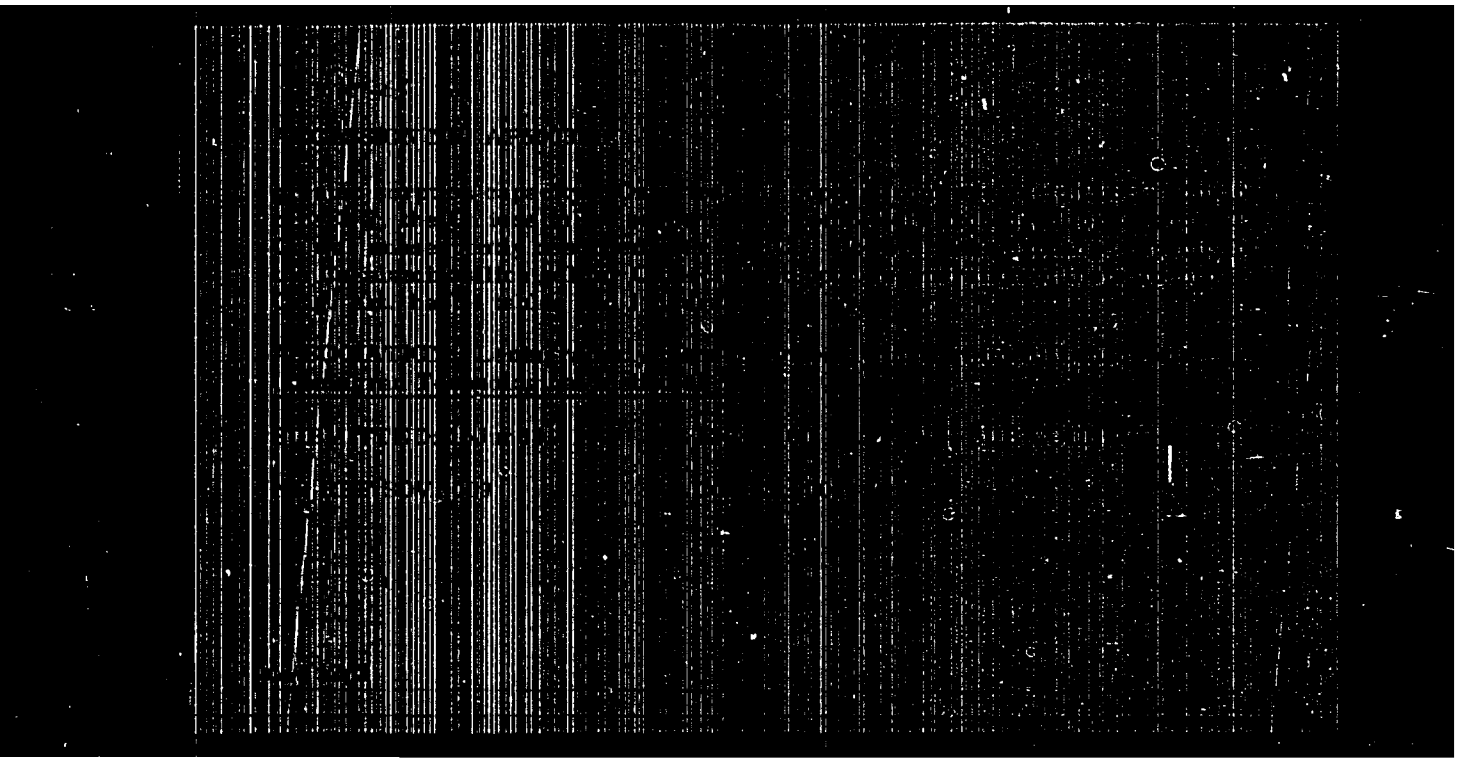

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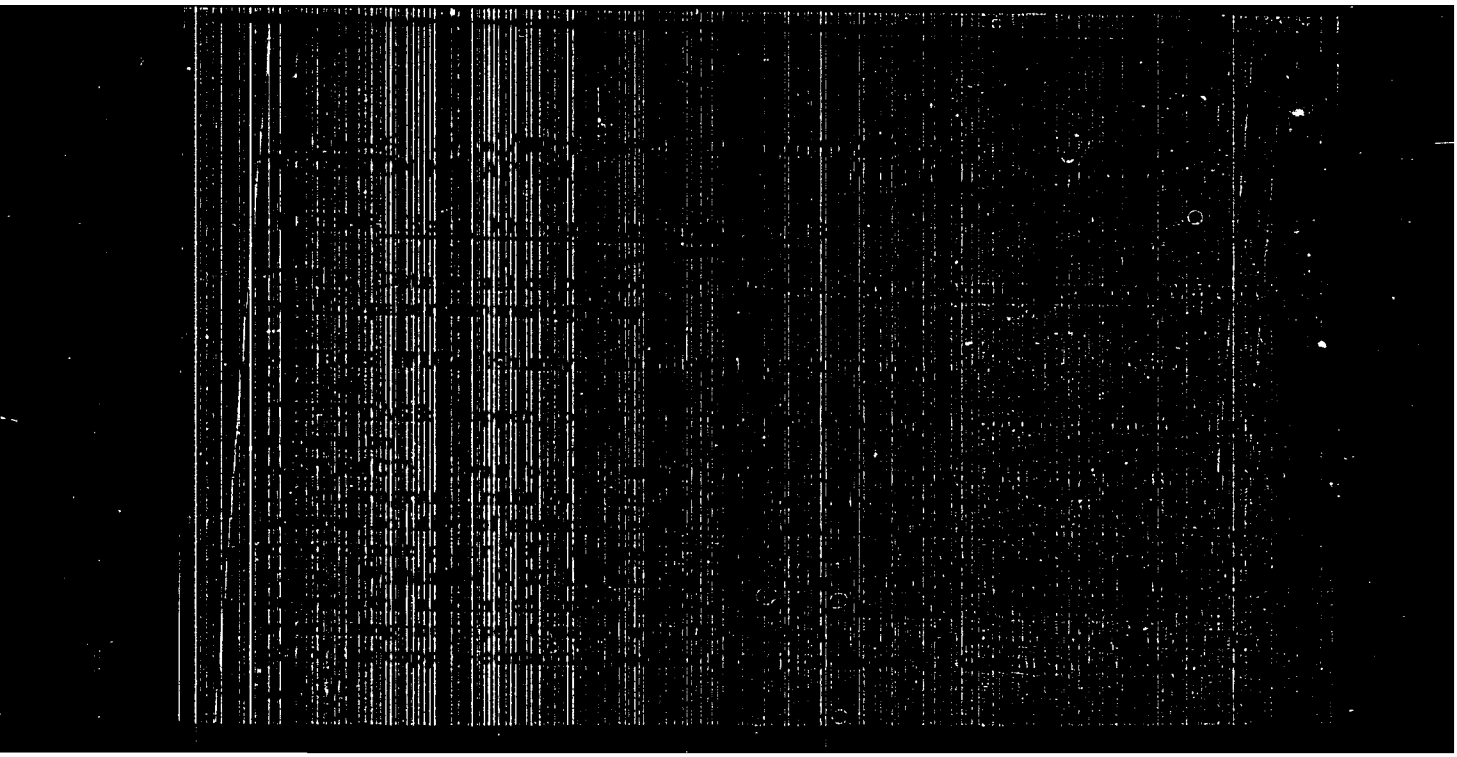

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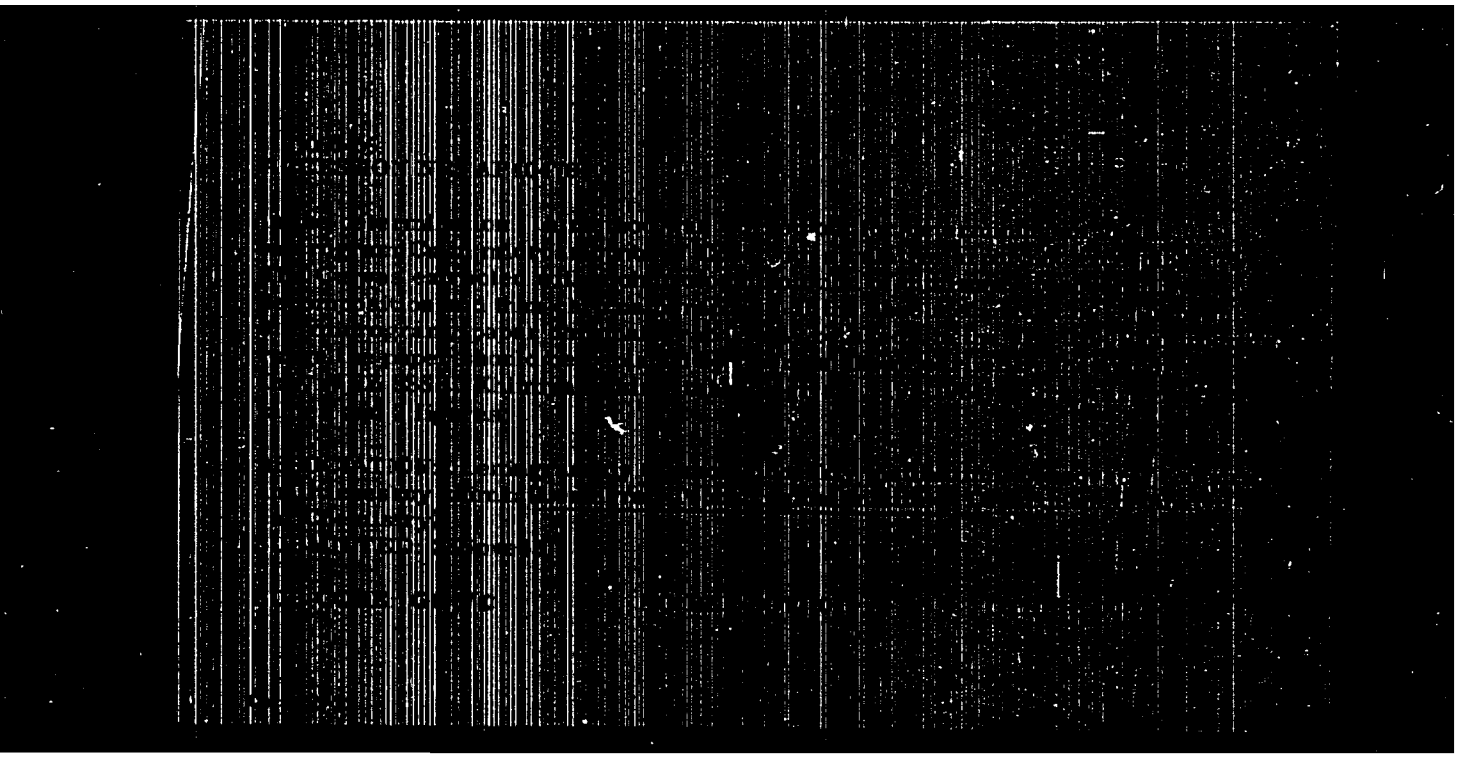

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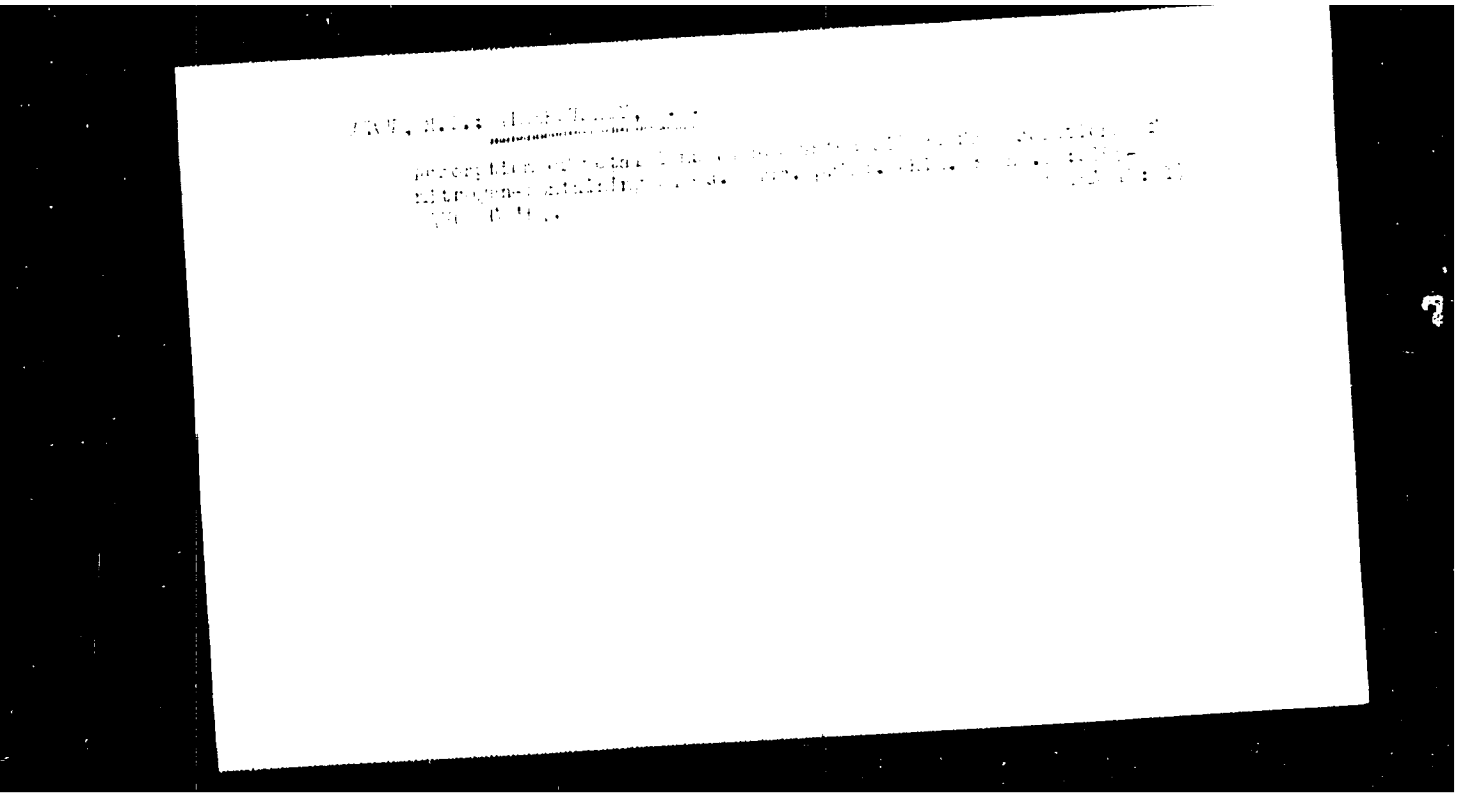
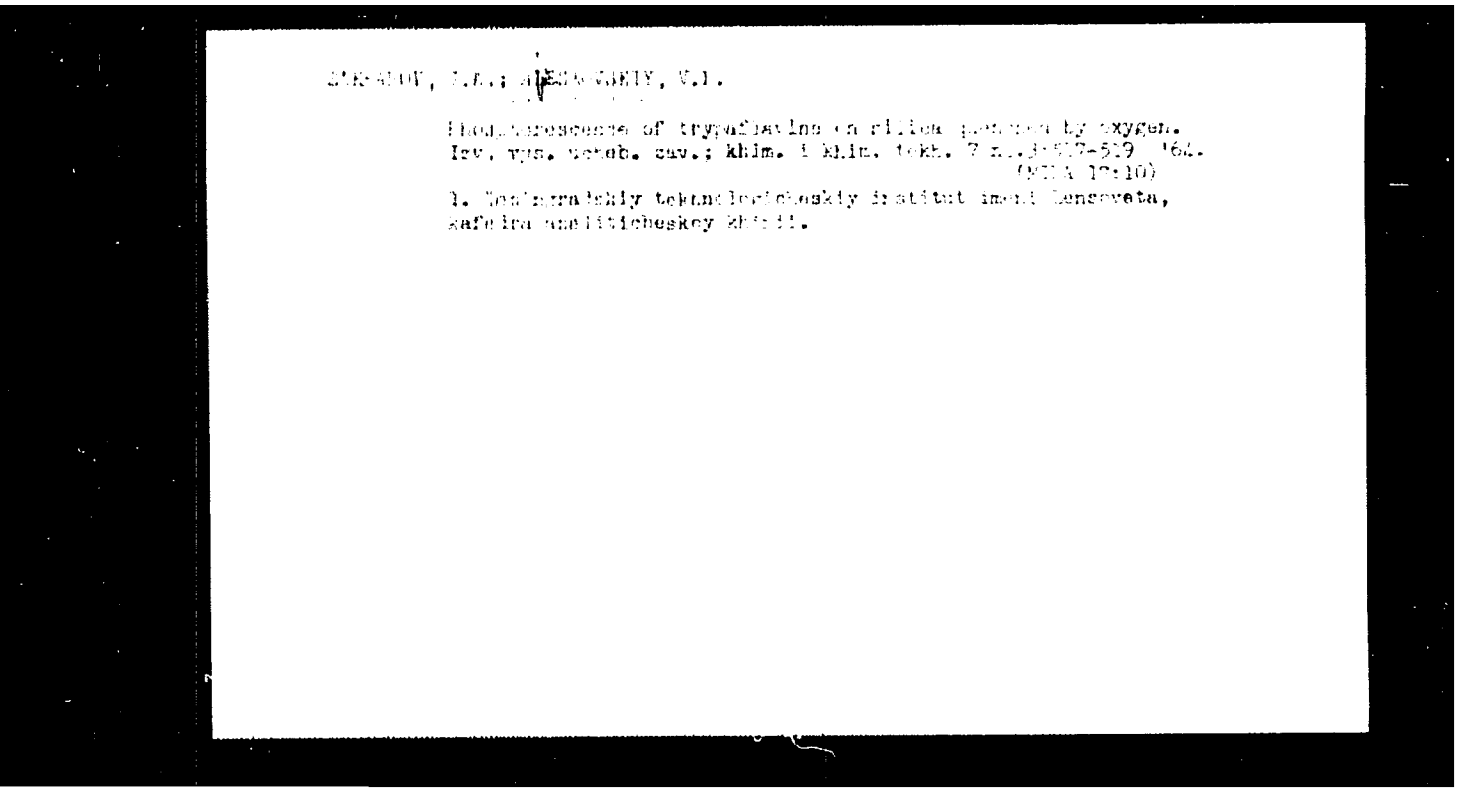


ALESKOVSKIY, V.B.; KOVAL'TSOV, V.A.; TSYPLYATNIKOV, G.F.

New method for determining oxygen content in water. Vodopod., vod. rezh. i khimkont. na parosil. ust. no.1:156-160 '64. (MIRA 18:2)

1. Leningradskiy ordena Trudovogo Krasnogo Znameni tekhnologicheskiy institut imeni Lensoveta.



[illegible], I.A.; [illegible], V.I.

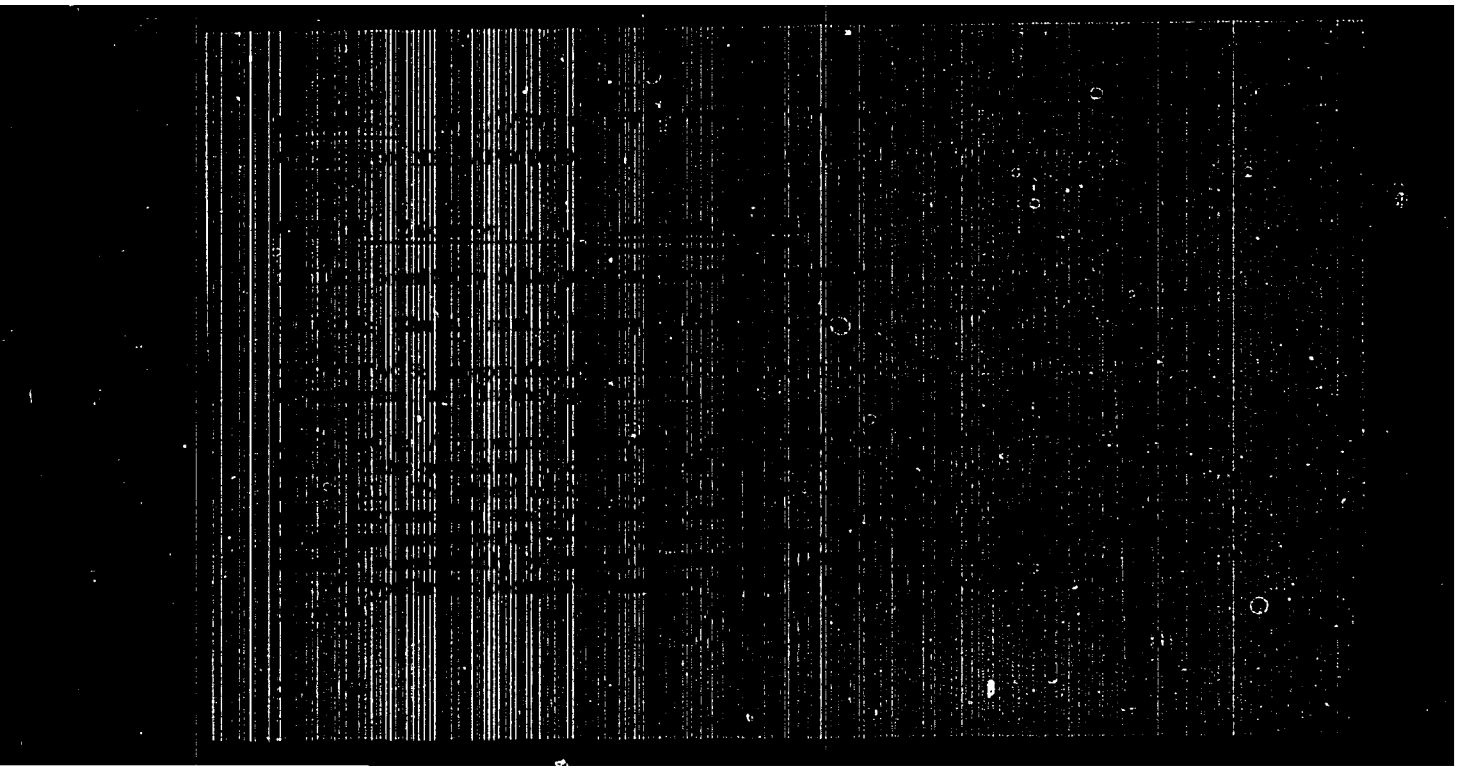
Photosensitization of tryptophan on silica gel by oxygen.
Izv. vys. ucheb. zav.; khim. i khim. tekh. 7 n.3:517-519 '64.
(MIRA 17:10)

1. Vsesoyuznyy tekhnologicheskiy institut imeni Lensoveta, kafedra analiticheskoy khimii.

KOKS, Kh.Ya.; [illegible]SKYYSKIY, V.B.

Determination of copper in microquantities of cadmium selenide by the method of precipitation (paper) chromatography. Izv. vys. ucheb. zav.; khim. i khim. tekh. 7 no.4:564-567 '64. (MIRA 17:12)

1. Laboratoriya analiticheskoy khimii Leningradskogo tekhnologicheskogo instituta imeni Lensoveta.



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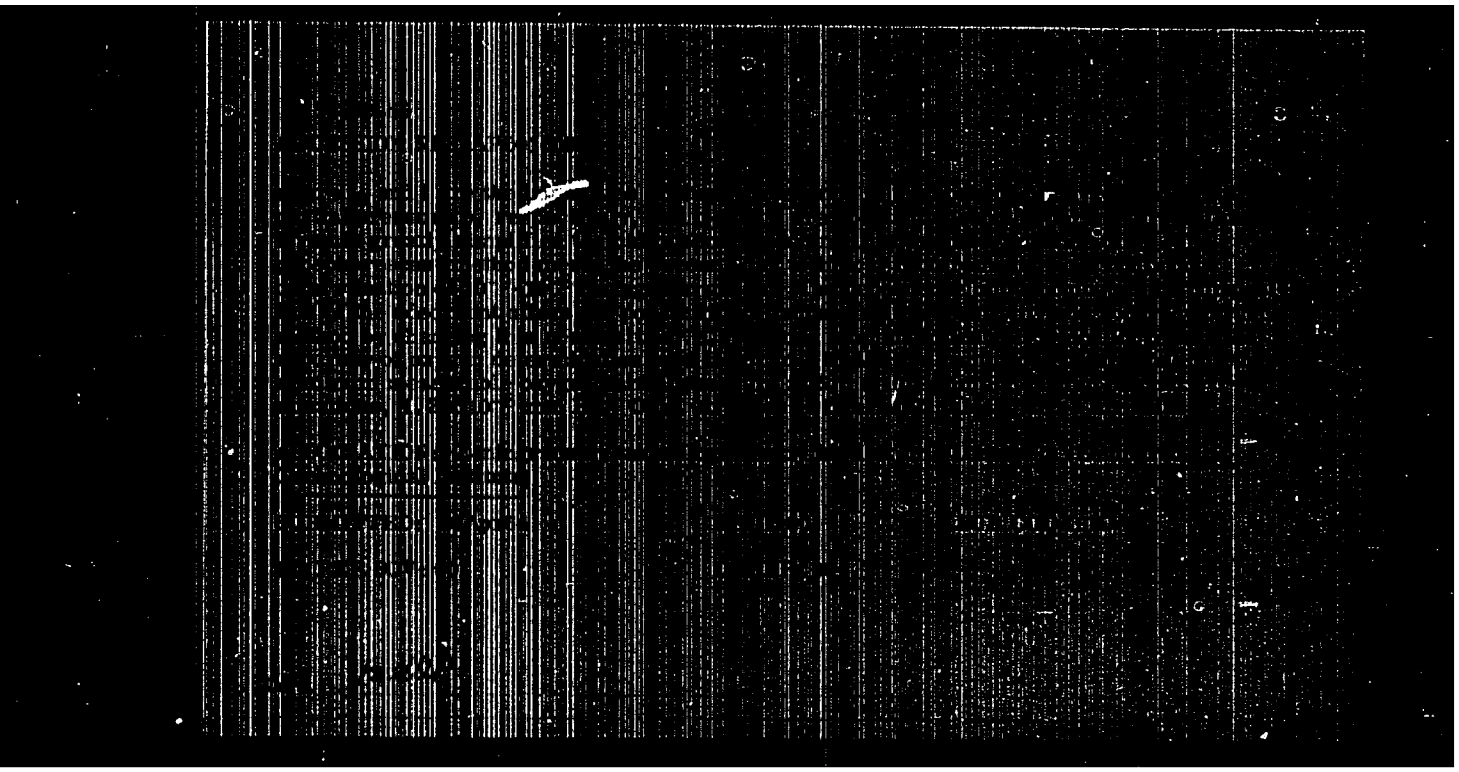

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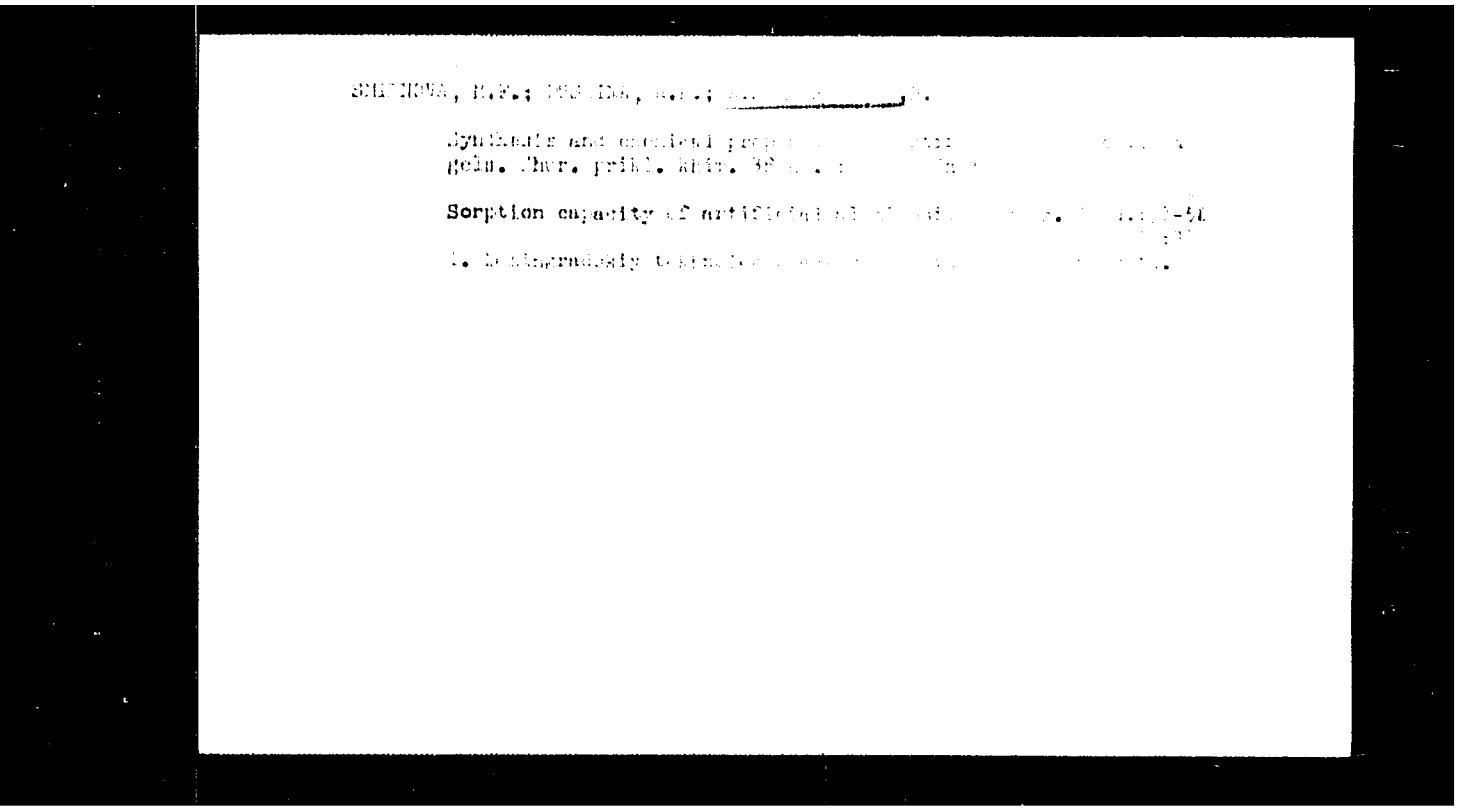

L 36181-66 EWT(m)/EWP(t)/ETI IJP(c) JD/JG

ACC NR: AP6014260 SOURCE CODE: UR/0153/[illegible]/0022/0025

AUTHOR: Pats, L. I.; Aleskovskiy, V. B.

ORG: Analytical Chemistry Department, Leningrad Technological Institute im. Lensovet

TITLE: Concentration of trace amounts of tantalum by coprecipitation with collectors

SOURCE: IVUZ. Khimiya i khimicheskaya tekhnologiya, v. 9, no. 1, 1966, 22-25

TOPIC TAGS: tantalum, chemical precipitation, trace analysis, cadmium sulfide, calcium carbonate

ABSTRACT: A technique applicable to hydrochemical prospecting is proposed for concentrating tantalum from dilute solutions and natural waters. It involves coprecipitation of tantalum with cadmium sulfide, calcium carbonate, and ferric hydroxide collectors. The influence of a number of factors on this coprecipitation was studied. The coprecipitation was increased by introducing third components (0.1 mg-eq of iron or aluminum salt), and varied with the initial pH of the solution in the case of CdS in the presence of iron salts. Changes in the time of contact between the precipitate and the solution, the presence of extraneous electrolytes (coprecipitation in sea water), a change in the ionic strength of the solution and in temperature from +4 to +70°, and aging of the collector with the trace element for 14 days had no effect on the extent of coprecipitation of tantalum with the collectors. It is postulated

UDC: 543.3:546.883

Card 1/2

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ACC NR: AP6014260

that the coprecipitation involves the formation of tantalate-type compounds in the alkaline range. It is shown that the proposed method can be successfully used to determine microgram quantities of tantalum under field conditions. Orig. art. has: 2 figures and 5 tables.

SUB CODE: 07/ SUBM DATE: 13Mar64/ ORIG REF: 011/ OTH REF: 002

Card 2/2

L 38115-66 EWT(m)/EWP(t)/ETI IJP(c) RDW/JD

ACC NR: AP6012215 SOURCE CODE: UR/0032/66/032/004/0414/0415

AUTHOR: Kokk, Kh. Yu.; Bystritskiy, A. L; Aleskovskiy, V. B.

ORG: Leningrad Technological Institute im. Lensovet (Leningradskiy tekhnologicheskiy institut)

TITLE: Determination of micro amounts of chlorine ions in a micro weighed portion of cadmium selenide

SOURCE: Zavodskaya laboratoriya, v. 32, no. 4, 1966, 414-415

TOPIC TAGS: quantitative analysis, chlorine, cadmium compound

ABSTRACT: The method for determination of the chlorine ions is based on the potentiometric determination of the chlorides driven off from cadmium selenide. A weak solution of hydrogen peroxide is used to prevent oxidation of the chlorides. The chlorides are driven off in a stream of nitrogen. The article gives a flow diagram of the potentiometric method of determination. Experimental results are listed in a table. The concentration of chlorine ions in the samples was calculated by the formula

$$C = \frac{\Delta EV}{29,2 \cdot a} \text{ micrograms/milligram}$$

Card 1/2

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ACC NR: AP6012215

where Δ E is the change in the electromotive force of the cell, millivolts; V is the volume of the flask used as a receiver, ml; a is the weighed portion, mg. The sensitivity of the determination is 5×10^{-3} Cl per mg of cadmium selenide. Orig. art. has: 2 figures and 1 table.

SUB CODE: 07/ SUBM DATE: none/ ORIG REF: 001

Card 2/2

L 36441-66
ACC NR: AP6018068 SOURCE CODE: UR/0076/66/040/005/0985/0991

24
B

AUTHOR: Zakharov, I. A.; Aleskovskiy, V. B.

ORG: Leningrad Institute of Technology im. Lensoveta (Leningradskiy technologicheskiy institut)

TITLE: Effect of support on oxygen quenching of Trypaflavine phosphorescence

SOURCE: Zhurnal fizicheskoy khimii, v. 40, no. 5, 1966, 985-991

TOPIC TAGS: phosphorescence, luminescence, phosphorescent material, phosphorous compound

ABSTRACT: The kinetics of oxygen quenching of Trypaflavine supported on silica, silica containing 0.05-9% Al^{3+} ions, and silica containing 1-4% K^{+} ions was studied. Foreign ions (Al^{3+} and K^{+}) were introduced to silica by ion-exchange technique. After degassing in vacuo at 180°C, various silica supports were contacted with Trypaflavine solution (10 ml of $5 \cdot 10^{-5}$ molar solution per 1 g support), decanted, washed with water, and dehydrated to various degrees by holding in vacuo for 2-40 hours at 20-560°C. During quenching experiments, the oxygen pressure was varied

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Card 1/2

L 36411-66

ACC NR: AP6018068

from 7.0×10^{-6} to 9.6×10^{-1} mm Hg. It was found that oxygen quenching of phosphor supported on pure dehydrated silica does not conform to the Stern-Volmer rule. It was also found that the shape of the quenching curve is a function of the degree of dehydration of the silica surface. The phosphorescence sensitivity of supported phosphor was found to depend upon the nature of functional groups present on the support's surface. For phosphors supported on either highly dehydrated silica or Al^{3+} containing silica, the shape of the oxygen quenching curves approaches that of the theoretical curve. It is postulated that the mechanism of phosphorescence of the adsorbed molecules depends upon the nature of the surface adsorption sites. An empirical expression is proposed for the quantitative treatment of phosphorescence of supported Trypaflavine. The kinetic data are graphed and tabulated. Orig. art. has: 5 figures, 4 tables and 3 formulas.

SUB CODE: 07/ SUBM DATE: 27Nov63/ ORIG REF: 010/ OTH REF: 008

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Card 2/2

ACC NR: AP7002397 SOURCE CODE: UR/0363/66/002/012/2110/2115

AUTHOR: Kalinkin, I. P.; Sergeyeva, L. A.; Aleskovskiy, V. B.

ORG: Leningrad Technological Institute im. Lensovet (Leningratskiy tekhnologicheskiy institut)

TITLE: Preparation, structure, and photoelectric property of single crystal films of CdS, CdS-CdSe, and CdSe

SOURCE: AN SSSR. Izvestiya. Neorganicheskiye materialy. v. 2, no. 12, 1966, 2110-2115

TOPIC TAGS: thin film, cadmium sulfide, cadmium selenide, single crystal film, photosensitive film

ABSTRACT: A study was made of vacuum deposition of hexagonal, single-crystal films of CdS, CdS-CdSe, and CdSe on heated substrates of mica or of single crystalline silver films on mica and of the effect of subsequent heat-treatment on the structure and photoelectric property of these films. The literature data are available only on polycrystalline films of cadmium chalcogenides which are presently used in thin film diodes, phototransistors, photoresistors, photovoltaic cells, etc. Electron diffraction patterns have shown that single phase hexagonal films of CdS and CdSe and triple CdS-CdSe films were deposited on the (0001) face of mica substrate at 270—450C under given conditions. Single crystal CdS and CdSe films of hexagonal or mixed structure were formed on a single-crystal silver film substrate which was

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ACC NR: AP7002397

heated at [illegible]—300C. Highly photosensitive layers, with the dark resistance to resistance on illumination ratio 3-5 orders of magnitude higher than in the earlier described CdS and CdSe films, were obtained by thermal photostimulation of single-crystal CdS and CdSe and triple CdS-CdSe films. Photosensitive (CdS_xCdSe_{1-x}): Cu, Cl films, with a low time constant, were obtained by a new method of heat treatment of CdS films under the preliminarily activated $(Cd_xSe_yO_z)$:Cu, Cl layer. Highly sensitive photoresistors, with maximum of photoelectric current intensity at various wave lengths in the 500—700 nm range, may be obtained on the basis of the above-indicated films. Orig. art. has: 2 tables and 6 figures.

SUB CODE: 20/ SUBM DATE: 13Dec65/ ORIG REF: 009/ OTH REF: 014
ATD PRESS/ 5111

Card 2/2

ALESKOVSKIY, Yu.

PHASE I BOOK EXPLOITATION SOV/4303

Frunze. Universitet. Nauchnoye studencheskoye obshchestvo

Sbornik nauchnykh rabot studentov, vyp. 2 (Collection of Scientific Works of Students, No. 2) Frunze, 1959. 99 p. 500 copies printed.

Sponsoring Agency: Kirgizskiy gosudarstvennyy universitet. Nauchnoye studencheskoye obshchestvo.

Resp. Ed.: L. A. Spektorov, Docent; Tech. Ed.: N. A. Yefimov.

PURPOSE: This book is intended for mathematicians, natural scientists, and philologists.

COVERAGE: The collection of articles contains studies in mathematics and mechanics, physics, biology, and philology written by members of the Nauchnoye studencheskoye obshchestvo (Students' Scientific Association) of Kirgizskiy gosudarstvennyy universitet (Kirgiz State University) under the guidance of faculty members. References accompany each article.

PHYSICS

Aleskovskiy, Yu. (Fourth-Year Student of the Division of Physics and Mathematics. Docent L. A. Spektorov, Scientific Adviser). Effect of the Sample Composition on the Rate of Thallium Evaporation From a Carbon Electrode 33

[illegible], D. (Fourth-Year Student of the Division of Physics and Mathematics. Docent L. A. Spektorov, Scientific Adviser). Temperature Measurement of Carbon Electrodes With Various Fillers 41

Shalpykov, A. (Fourth-Year Student of the Division of Physics and Mathematics. Docent L. A. Spektorov, Scientific Adviser). Quantitative Analysis of Aluminum by the Width of Spectral Lines 47

[illegible], P. (Fourth-Year Student of the Division of Physics and Mathematics. Docent A. G. Iakhontov, Scientific Adviser). X-Ray Spectrographic Study of Macrocrystalline Aluminum Deformation 51

[illegible], Zh., and V. Engel'ant (Students of the Division of Physics and Mathematics; Docent L. A. Spektorov, Scientific Adviser). "Growth Curves" [Dependence of Spectral Line Intensity on the Concentration of Atoms in the Source of Light of Some Spectral Lines of Molybdenum and Nickel] 55

BIOLOGY

Litvak, [illegible] (Fourth-Year Student of the Division of Biology and Mathematics, Professor F. A. Turdakov, Scientific Adviser). [illegible] [Fish] From the Talas Basin 59

[illegible], M. (Fourth-Year Student of the Division of Biology. Professor F. A. Turdakov, Scientific Adviser). Ichthyological Expedition to the Susamyr Valley in the Summer of 1953 63

[illegible] (Fourth-Year Student of the Division of Biology. Professor F. A. Turdakov, Scientific Adviser). Gudgeon (G. gobio lepidolaemus) From the Shebakty River (Talas Basin) 67

Card 1/6

22910

S/109/61/006/004/025/025
E032/E314

26.2340
26.1632

AUTHORS: Aleskovskiy, Yu.M., Granovskiy, V.L. and Nikhalets, Ye.

TITLE: Recombinational Emission of a Caesium Plasma in a Magnetic Field

PERIODICAL: Radiotekhnika i elektronika, 1961, Vol. 6, No. 4, pp. 674 - 675

TEXT: When a longitudinal magnetic field is applied to the positive column of a low-pressure discharge, it reduces the diffusion of electrons and ions towards the walls in the direction perpendicular to the field. As a result, the mean lifetime of current carriers in the plasma is increased. The ion balance is maintained at a lower ionisation frequency and hence in a stationary plasma the longitudinal electric field and the electron temperature are reduced. This can be confirmed experimentally (Ref. 2). In this connection, it may be supposed that the fraction of charged particles disappearing from the plasma as a result of volume recombination should increase in the magnetic field

Card 1/4

(I.A. Vasil'yeva - Ref. 3). The absolute number of recombinations should also increase somewhat. However, spectroscopic observations of the recombinational emission reported by Davies (Ref. 5) are not in agreement with the above ideas. The present authors have investigated the effect of a magnetic field on the electron recombination in a stationary discharge in low-pressure caesium vapour. The intensity of the recombinational continuum with the limit at 4943 Å, corresponding to the capture of electrons to the level $Cs6P_{1/2}$ (Ref. 6), was measured. The discharge tube was 25 mm in diameter and was located in a uniform magnetic field produced by two solenoids. The radiation was examined through a gap between the solenoids. The discharge current was varied between 1 and 2.5 A and the caesium vapour pressure between 2 and 130 μ. It was found that the emission of the positive column was very dependent on the magnetic field. The intensities of all the emission lines

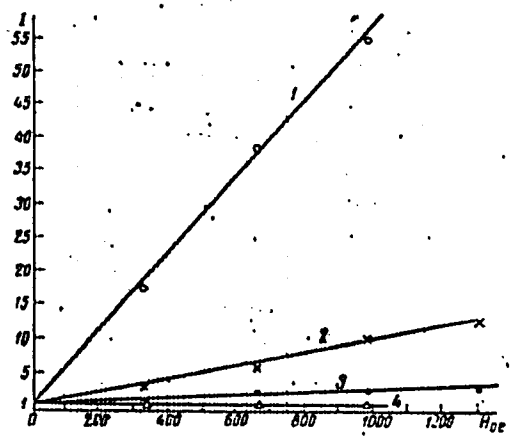
of caesium decreased with increasing magnetic field. On the other hand, the recombinational emission increased with the magnetic field and this was particularly well defined at low pressures. The figure shows the intensity of recombinational emission as a function of the magnetic field at different caesium vapour pressures. The numbers 1, 2, 3, and 4 refer to pressures of 8.2, 18, 36 and 74 μ, respectively. There are 1 figure and 6 references: 2 Soviet and 4 non-Soviet.

ASSOCIATION: Fizicheskiy fakul'tet Moskovskogo gosudarstvennogo universiteta im. M.V. Lomonosova (Physics Department of Moscow State University im. M.V. Lomonosov)

SUBMITTED: January 5, 1961

Recombinational Emission ...

Figure:



Card 4/4

21625

S/137/61/000/003/030/069
A006/A101

AUTHOR: Aleskovskiy, Yu.M.

TITLE: On some peculiarities of particle distribution in an electric a-c arc

PERIODICAL: Referativnyy zhurnal, Metallurgiya, no. 3, 1961, 3, abstract 3E20 (V sb. "O spektr. analize metallov, rud i mineralov", Krasnoyarsk, TsBTI Krasnoyarskogo Sovnarkhoza, 1958, 33 - 41)

TEXT: The author attempted to connect results of observing the distribution of particles in the arc with processes accompanying the evaporation of particles from the electrode surface. In all the phases of burning of the arc a considerable elevation of temperature from the anode to the cathode was observed (by 700 - 800°K); the temperature of each section of the arc drops at the end of the period. The difference between the maximum temperature during the ignition phase and the least temperature during the extinction phase attains 400 - 500°K. The highest increase of the ionization degree is observed near the cathode during the initial phase of the arc burning, having a value of 15 - 20%. Curves of Cu and Mg atom concentration show clearly appearing maxima in various phases. Atom

Card 1/2

concentration increases by a factor of 6 - 8 from the first to the third phase and decreases toward the last phase. The moment when the arc cloud is most filled with Cu and Mg atoms, is shifted over the phase by 40° in respect to the maximum values of current, power and temperature of discharge, resulting from the inertia of evaporation of the substance. The prevalent evaporation of Cu is shifted toward the later phases in comparison with Mg. This is connected with the vapor tension of these elements.

V. P.

[Abstracter's note: Complete translation.]

28535
S/109/61/006/009/018/018
D201/D302

26.2340

AUTHORS: Aleskovskiy, Yu.M., and Granovskiy, V.L.

TITLE: Spectroscopic determination of deionization speed of cesium vapor in a magnetic field

PERIODICAL: Radiotekhnika i elektronika, v. 6, no. 9, 1961, 1590 - 1592

TEXT: In this short communication the authors present the results of their experimental evaluation of the influence of a magnetic field on the recombination losses of charged particles in a volume of decaying plasma. The experiment consisted of measuring the recombination radiation from cesium plasma in the region of boundary continuum with a limit of 4940 A^{o}_{1} which corresponds to the capture of electrons by the cesium ions to the level $C_s 6P_{1/2}$. The cesium plasma was formed by an arc discharge in a tube 2.5 cm diameter and 40 cm long, energized by a pulsating unidirectional current at the mains frequency. In phase with the peak current, a thyratron, in

Card 1/3